

Revision of the genus *Mariosousa* (Fabaceae, Mimosoideae) in the New World

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ABSTRACT

Originally referred to as the *Acacia coulteri* species group, the 14 members of genus *Mariosousa* are known from northern Central America and Mexico, with one species entering the southwestern United States. Detailed descriptions, habitat preferences, geographic ranges, and an exsiccatal list of all specimens examined by the authors are given. The species of this genus form a distinct group within the *Senegalia* grade (former *Acacia* series *Vulgares*), lacking prickles and spines and usually with persistent stipules. Published online www.phytologia.org *Phytologia* 105(2): 29-67 (June 21, 2023). ISSN 030319430.

KEY WORDS: *Acacia coulteri* group, list of exsiccatae, Fabaceae, Mexico, North and Central America, 14 taxa.

Numerous morphological and genetic studies support the view that the genus *Acacia* s.l. is polyphyletic, consisting of at least seven distinct groups of species (Seigler et al. 2017). Species of one of these groups were treated as *Senegalia* by Britton and Rose (1928). This group included some taxa now assigned to *Mariosousa*, *Parasenegalia* and *Pseudosenegalia*. Among other features, those of these three genera differ by the lack of prickles. *Mariosousa* is further distinguished by the order of development of seedling leaves: those in *Mariosousa* having the first two leaves pinnate followed by a bipinnate leaf, whereas in *Senegalia* the first three leaves are bipinnate or a singly pinnate leaf followed by two bipinnate leaves (Vassal 1972). A key that includes these four genera is provided in Miller et al. (2017). The *Acacia coulteri* species group in the New World was first recognized as distinct from the large genus *Acacia* s.l. by Jawad et al. (2000 [2001]). Later, Seigler et al. (2006a) named this new segregate genus *Mariosousa*, when they transferred 13 species of *Acacia* to that entity. An additional species, *M. gentryi*, was described by Seigler and Ebinger (2021).

Members of *Mariosousa* are erect shrubs or trees that lack prickles or spines, have persistent stipules, and have flowers in cylindrical spikes. Except for minor differences in flower size and pubescence, the flowers are quite similar, being 5-merous with tubular calyx and corolla, numerous separate stamens that usually possess anther glands, and a single short-stalked pistil. The 14 currently recognized species are distributed from Arizona and New Mexico (one species), south through Mexico (where all species of the

genus occur) to Belize, Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica where three species occur, the most widespread being *M. centralis*.

In a recent nuclear phylogeny of the genus *Senegalia* (Koenen et al. 2020; Ringelberg et al. 2022), two well-supported clades correspond to: (1) a clade combining *Senegalia* sect. *Senegalia*, and *Senegalia* sect. *Monacantha* s.s. on one hand (clade A in Terra et al. 2017); and (2) *Senegalia* sect. *Monacantha* pro parte (p.p.) on the other hand (clade B in Terra et al. 2017). The two clades of *Senegalia* in this new phylogeny are congruent with the two main *Senegalia* clades found by Bouchenak-Khelladi et al. (2010), Kyalangalilwa et al. (2013), Boatwright et al. (2015) and Terra et al. (2017) that had more comprehensive taxon sampling. A third, moderately supported clade includes only the species *Mariosousa sericea* (M. Martens & Galeotii) Seigler & Ebinger, *Parasenegalia visco* (Lorentz ex Griseb.) Seigler & Ebinger and *Pseudosenegalia feddeana* (Harms) Seigler & Ebinger, interspersed between the two *Senegalia* clades. In marked contrast to the nuclear phylogeny, the two *Senegalia* sections are sister clades in the plastid phylogeny presented by Ringelberg et al. (2022), that supported the genus *Senegalia* as monophyletic based on plastid data alone. In summary, phylogenetic analyses indicate that the genus *Mariosousa* is closely related but distinct from the non-monophyletic genus *Senegalia* in a moderately supported clade comprised of *Senegalia*, *Mariosousa*, *Pseudosenegalia*, and *Parasenegalia* (Ringelberg et al. 2022; Terra et al. 2022). Phylogenetic analyses of plastid and/or nuclear sequence data support the genus *Mariosousa* as monophyletic (Seigler et al. 2006a, 2006b; Miller et al. 2017; Maslin et al. 2023).

In this publication, we include the accepted name and basionym for each species along with the citations and type information for all specimens examined. An accompanying list of exsiccatae (Appendix) includes the collector(s) and collecting number of each specimen. The complete citation and type information for synonyms of the majority of specimens we have examined are given in Jawad (2000 [2001]), Seigler et al. (2006a), and Seigler et al. (2023).

TAXONOMIC TREATMENT

Mariosousa Seigler & Ebinger in Seigler, Ebinger & J.T. Miller, Novon 16(3): 415-420. 2006a. **TYPE:** *Mariosousa coulteri* (Benth. in A. Gray) Seigler & Ebinger in Seigler et al., 2006a. [= *Acacia coulteri* Benth. in A. Gray, 1852; ≡ *Senegalia coulteri* (Benth. in A. Gray) Britton & Rose, 1928].

Etymology: The genus *Mariosousa* honors Mario Sousa Sánchez (1940-2017), former Director of the Herbarium of the Instituto de Biología (MEXU), Universidad Autónoma de México (Rico Arce & Grether 2017).

Unarmed **shrubs** and **trees**; bark hard and fissured to sometimes papery and exfoliating; twigs usually not flexuous; short shoots mostly absent. **Leaves** alternate, bipinnately compound; stipules symmetrical, flattened, straight, herbaceous, narrowly triangular to linear, mostly persistent, and mostly not spinose; petioles usually adaxially grooved; petiolar glands small, solitary (sometimes absent); rachis usually adaxially grooved, with a small gland between the uppermost to rarely most pinna pairs; pinnae 1 to 30 pairs/leaf, mostly with numerous leaflets, commonly 4 to 65 pairs/pinna; leaflets mostly less than 10 mm long, opposite, linear to oblong to elliptic, base oblique, and often truncate on one side. **Inflorescence** axillary cylindrical spike, receptacle not enlarged, sometimes clustered in terminal or axillary pseudo-racemes; involucre absent or consisting of 1 or 2 small, early deciduous bracts; floral bracts linear, early deciduous. **Flowers** sessile, creamy white, with a basal cupular nectariferous disk; calyx 5-lobed; corolla 5-lobed, the lobes one third to half the length of the corolla; stamens numerous (30)50-80(115), distinct; anther glands usually present; pollen comprising 16 grained polyads; ovary stipitate, usually glabrous. **Legumes** oblong, straight, strongly flattened, not constricted between the seeds, dehiscent along both sutures, mostly chartaceous, transversely to irregularly striate (rarely not striate), with a distinct stipe. **Seeds** uniseriate, not winged, strongly flattened, smooth, not surrounded by pulp; usually with a large U-shaped pleurogram covering 50%-70% of the seed.

Key to the species of the genus *Mariosousa*.

- a. Bark of trunk and major branches smooth, white to reddish yellow to light gray, exfoliating and papery
 - b. Pinnae 1 (rarely 2 or 3) pair/leaf; most petioles flattened, many more than 130 mm long *Mariosousa heterophylla*
 - b. Pinnae 2 to 18 pairs/leaf; petioles terete in cross section, less than 130 mm long.
 - c. Pinnae 2 to 7 pairs/leaf; 4-40 mm between pinna pairs; 1.8-3.3 mm between leaflet pairs (northern Sinaloa, Mexico) *Mariosousa gentryi*
 - c. Pinnae 7 to 18 pairs/leaf; 4-15 mm between pinna pairs; 0.8-1.6 mm between leaflet pairs *Mariosousa salazarii*
- a. Bark not as above, mostly shallowly furrowed, fissured, rough and scaly, not exfoliating and papery.
 - d. Pinnae mostly with more than 36 pairs of leaflets, especially those near the middle of the rachis.
 - e. Petiolar gland flattened, usually located on the lower third of the petiole; leaflet apex obtuse to broadly acute.
 - f. Leaflets 1.2-1.9 mm wide; most leaves with 7 to 15 pairs of pinnae. *Mariosousa usumacintensis*
 - f. Leaflets less than 1.3 mm wide; leaves with 2 to 7(8) pairs of pinnae. *Mariosousa dolichostachya*
 - e. Petiolar gland saucer-shaped to cup-shaped, usually located on the upper half of the petiole, rarely absent; leaflet apex narrowly acute to acuminate.
 - g. Minute purple glands common at the base of the leaflet, and usually along the rachis; leaflets lacking long hairs on the lower side at the base *Mariosousa acatlensis*
 - g. Minute purple glands absent; leaflets usually with long hairs on the lower side at the base. *Mariosousa centralis*
 - d. Pinnae mostly with fewer than 36 pairs of leaflets.
 - h. Leaves less than 30 mm long; some clustered on short shoots. *Mariosousa compacta*
 - h. Leaves mostly more than 30 mm long; short shoots absent.
 - i. Leaflets appressed to erect pubescent on both surfaces, usually densely so.
 - j. Petiole and rachis densely pubescent with erect hairs about 0.3 mm long; fruit pubescent. *Mariosousa sericea*
 - j. Petiole and rachis with short, appressed hairs; fruit glabrous or nearly so.
 - k. Petiolar glands raised, the apex bulbous; pinnae 1 to 6 (9) pairs/leaf. *Mariosousa mammifera*
 - k. Petiolar glands sessile and with an irregularly raised apex; pinnae 5 to 13 pairs/leaf. *Mariosousa durangensis*
 - i. Leaflets glabrous to lightly appressed pubescent beneath.
 - l. Leaves mostly with a single pair of pinnae (rarely 2 or 3); many petioles more than 100 mm long. *Mariosousa heterophylla*
 - l. Leaves mostly with 4 or more pairs of pinnae; petioles less than 70 mm long.
 - m. Rachis gland between the upper pinna pair stalked; shrub or small tree usually less than 4 m tall. *Mariosousa millefolia*
 - m. Rachis gland between the upper pinna pair sessile; usually saucer-shaped, cup-shaped, or absent; large shrub or tree, usually more than 4 m tall.
 - n. Petiolar glands absent on many petioles; leaflet apex acuminate; bark of trunk and large branches exfoliating and papery; (many herbarium specimens of *Mariosousa salazarii* lack this information) . . . *Mariosousa salazarii*
 - n. Petiolar glands present; leaflet apex broadly acute to obtuse; bark smooth

to furrowed, not exfoliating or papery.

o. Leaflets appressed pubescent beneath; rachis and pinna rachises

pubescent; sepals and petals pubescent *Mariosousa coulteri*

o. Leaflets glabrous beneath; rachis and pinna as well as the sepals and

petals glabrous. *Mariosousa russelliana*

1. *Mariosousa acatlensis* (Benth.) Seigler & Ebinger in Seigler et al., Novon 16(3): 417. 2006a. Basionym: *Acacia acatlensis* Benth., London J. Bot. 1:513. 1842. *Senegalia acatlensis* (Benth.) Britton & Rose, N. Amer. Fl. 23(2): 112. 1928. **TYPE:** Mexico. Puebla. Acatlán, 18 May 1830, *G. Andrieux 396* (lectotype, designated here, K [barcode] K000081898; isolectotypes, A [bc] 00065286, G [bc] G00364601, K at F [27891], M, MEXU, MICH, NY, TEX, US [bc] 00000562). [= *Senegalia submontana* Britton & Rose, 1928.] (Fig. 1)

Shrub or small **tree** to 15 m tall; bark dark gray, shallowly furrowed; twigs light brown to greenish brown, not flexuous, glabrous to lightly puberulent; short shoots absent. **Leaves** alternate, 50-150 mm long; stipules narrowly linear, 0.8-3 x 0.2-0.6 mm near the base, usually glabrous, persistent; petiole adaxially shallowly grooved, 15-40 mm long, glabrous or nearly so, minute purple glands present; petiolar gland solitary, located between the lowermost pinna pair or along the upper half of the petiole, sessile, nearly circular to elongated, 0.7-2.3 mm long, saucer-shaped to cup-shaped, glabrous, rarely absent; rachis adaxially grooved, 20-110 mm long, glabrous to lightly puberulent, minute purple glands present, a sessile, cup-shaped gland, 0.4-0.9 mm across, between the upper 1 to 3 pinna pairs; pinnae 6 to 30 pairs/leaf, 25-60 mm long, 3-7 mm between pinna pairs; paraphyllidia 0.3-1.0 mm long; petiolules 0.8-2.6 mm long; leaflets 36 to 60 pairs/pinna, opposite, 0.5-1.2 mm between leaflet pairs, linear, 2.5-4.8 x 0.7-1.1 mm, glabrous and commonly light greenish purple above, lateral veins obvious, 1 to 3 veins from the base, margins ciliate, apex narrowly acute to acuminate, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 40-100 mm long, 1 to 4 from the leaf axil, or in terminal racemose clusters; peduncle 5-10 x 0.5-1.0 mm, glabrous to lightly puberulent; floral bracts linear, to 1 mm long, glabrous, early deciduous. **Flower** calyx 1.0-1.8 mm long, lightly appressed pubescent; corolla 2.1-2.8 mm long, lightly appressed pubescent; stamen filaments 4.5-6.5 mm long; stipe of ovary to 0.4 mm long. **Legumes** 80-170 x 13-25 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe to 20 mm long; apex broadly acute. **Seeds** oval, 7-10 x 4.5-7.2 mm, dark reddish brown; pleurogram U-shaped, 1.2-2.3 mm across.

Phenology: Flowering March-June.

Local Names: borreguitos, chindata, chondata, chivo, tiñu, tlahuintole, yepaquiltitl (Rico Arce 2001).

Conservation Status: Least Concern.

Distribution: Dry, deciduous, tropical forests and thorn-scrub forests between 500 and 2100 m elevation in the states of Chiapas, Colima, Guerrero, Jalisco, México, Michoacán, Nayarit, Oaxaca, Puebla, Sinaloa, and Zacatecas, Mexico.

Discussion: Bentham noted only the one collection in the 1842 protologue. Among the several duplicates seen, the *Andrieux 396* specimen at Kew was chosen as the lectotype because it is in full flower and annotated by Bentham.

Mariosousa acatlensis and *M. centralis* (Britton & Rose) Seigler & Ebinger, in Seigler et al. are very similar, and it is possible they should be considered subspecies or varieties under the older name *Mariosousa acatlensis*. The two can be separated based on the presence or absence of minute purple glands that are common at the base of the leaflets, in the grooves of the rachis and petiole, and not uncommonly along the axis of the inflorescence in *M. acatlensis*. Both are widely distributed in southern Mexico, although *M. centralis* has been collected more frequently in the southernmost part of Mexico and, unlike *M. acatlensis*, occurs in Guatemala and countries to the south.

In the northern parts of its range in Guerrero, Jalisco, and Michoacán, *Mariosousa acatlensis* is sympatric with, and possibly hybridizes with, *M. salazarii* (Britton & Rose) Seigler & Ebinger, in Seigler et al. (2006a). The minute purple glands, the large number of leaflets per pinna pair (more than 36), and

the short petiolules (less than 2.5 mm long) separate *M. acatlensis* from that taxon. Occasional specimens were encountered that exhibited a mixture of characteristics of these two species. This involved a few specimens with some leaves with more than 40 pair of leaflets per pinna, typical of *A. acatlensis*, but with petiolules that exceeded 2.5 mm, and papery, exfoliating bark, characteristics of *M. salazarii*.

2. *Mariosousa centralis* (Britton & Rose) Seigler & Ebinger, in Seigler et al., Novon 16(3): 417. 2006a. Basionym: *Senegalia centralis* Britton & Rose, N. Amer. Fl. 23(2): 113. 1928. *Acacia centralis* (Britton & Rose) Lundell, Contr. Univ. Michigan Herb. 4: 7. 1940. **TYPE**: El Salvador. “[N]ear San Salvador, 1923, S. Calderón 1774 (holotype, NY [barcode] NY00003308 [fls.], NY photo at F Neg. No. 53554; isotypes, BM [bc] BM000645740 [fls.], GH [bc] GH00063728 [fls.], US-1165767 [bc] US00000681 [fls.]). (Fig. 2)

Tree to 25 m tall; bark dark grayish brown, vertically fissured, rough and scaling; twigs light brown to greenish brown, not flexuous, mostly glabrous; short shoots absent. **Leaves** alternate, 70-180 mm long; stipules narrowly linear, 1.0-4.5 x 0.2-0.6 mm wide near the base, glabrous, persistent; petiole adaxially shallowly grooved, 18-46 mm long, glabrous to lightly puberulent, minute purple glands absent; petiolar gland solitary, located on the middle part of the petiole, sessile, circular to oblong, 1.0-2.6 mm across, saucer-shaped to cup-shaped, glabrous; rachis adaxially grooved, 40-150 mm long, glabrous to puberulent, minute purple glands absent, a sessile saucer-shaped to doughnut-shaped gland, 0.6-1.3 mm across, between the upper 1 to 2 pinna pairs; pinnae (4)11 to 24 pairs/leaf, 30-70 mm long, 3-10 mm between pinna pairs; paraphyllidia 0.3-0.7 mm long; petiolules 0.6-2.5 mm long; leaflets 40 to 60 pairs/pinna, opposite, 0.5-1.2 mm between leaflet pairs, linear, 3.0-5.5 x 0.6-1.2 mm, glabrous except for occasional long hairs at the base beneath, lateral veins obvious, 1 to 3 veins from the base, margins ciliate, apex narrowly acute to acuminate, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 60-140 mm long, 1 to 3 from the leaf axil, or in terminal racemose clusters; peduncle 4-10 x 0.5-1.0 mm, glabrous to lightly puberulent; floral bracts linear, to 1 mm long, usually glabrous, early deciduous. **Flower** calyx 0.7-1.3 mm long, lightly appressed pubescent; corolla 1.8-2.5 mm long, lightly appressed pubescent; stamen filaments 4.5-6.5 mm long; stipe of ovary to 0.3 mm long. **Legumes** 100-160 x 16-28 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 15-20 mm long; apex broadly acute to obtuse and usually apiculate. **Seeds** nearly circular, 6-9 mm across, dark reddish brown; pleurogram U-shaped, 1.5-3.0 mm across.

Phenology: Flowering April-August, and sporadically throughout the year when moisture is available.

Local Names: gache (Rico Arce 2001).

Conservation Status: Least Concern.

Distribution: Lowland forests, and moist disturbed sites below 1300 m in Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and the states of Chiapas, Jalisco, Oaxaca, and Sinaloa, Mexico.

Discussion: Britton and Rose (1928: 113) indicated the “Type from near El Salvador” as the collection *Calderon 1774* in the protologue for *Senegalia centralis*. The NY holotype of *Senegalia centralis* was in flower and good leaf condition and was annotated by Britton as “co-type” on the original label at sheet lower right. Such annotation of “co-type” doesn't appear on the other duplicates examined.

A tall tree, sometimes entering the canopy of moist lowland forests, *Mariosousa centralis* is also a common component of disturbed habitats at lower elevation through most of Central America. Most collections are from roadsides, disturbed pastures, and gallery forests.

See *M. acatlensis* remarks concerning the similarity of these two species.

3. *Mariosousa compacta* (Rose) Seigler & Ebinger, in Seigler et al., Novon 16(3): 417. 2006a. Basionym: *Acacia compacta* Rose, Contr. U. S. Natl. Herb. 8(1): 31. 1903. *Senegalia compacta* (Rose) Britton & Rose, N. Amer. Fl. 23(2): 111. 1928. **TYPE**: México. Oaxaca. “Tomellin Canon,” 24 Jun. 1899, J. N. Rose & W. Hough 4680 (lectotype, designated here, US [barcode] US00000570 [fls., fr.]; isolectotypes, GH [bc] GH00058224 [fls.], K [bc] K000081897 [fls.], NY [bc] NY00001460, fragm., photo ex US). [= *Lysiloma standleyanum* Britton & Rose, 1928.] (Fig. 3)

Shrub or small **tree** to 6 m tall; bark dark gray, flaking-off in thin strips; twigs light brown to dark reddish brown, slightly flexuous, pubescent to glabrous, when young with minute purple glands; short shoots commonly present at to immediately above the nodes, to 3 mm long, covered with acuminate stipules and old leaf bases. **Leaves** alternate, also clustered on the short shoots, 5-30 mm long; stipules narrowly linear, 1.5-3.0 x 0.2-0.5 mm near the base, usually glabrous, persistent; petiole adaxially grooved, 2.5-14.0 mm long, usually pubescent, minute purple glands present; petiolar gland solitary, located at or just below the lowermost pinnae pair, sessile to short-stalked, circular, 0.3-1.1 mm across, doughnut-shaped, glabrous; rachis adaxially grooved, 0-20 mm long, occasionally pubescent; minute purple glands present, a sessile, saucer-shaped gland, 0.2-0.6 mm across, occasionally present between the uppermost pinna pair; pinnae 1 to 6 pairs/leaf, 6-18 mm long, 2-5 mm between pinna pairs; paraphyllidia absent; petiolules 0.4-1.2 mm long; leaflets 8 to 24 pairs/pinna, opposite, 0.5-0.9 mm between leaflet pairs, oblong, 0.8-3.0 x 0.5-0.9 mm, glabrous above, usually lightly pubescent beneath with long hairs, lateral veins not obvious, only 1 vein from the base, margins usually ciliate, apex acute to obtuse, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 30-70 mm long, solitary (rarely 2 to 3) from the leaf axil; peduncle 6-13 x 0.4-0.7 mm, usually pubescent; floral bracts linear, to 1.5 mm long, pubescent, early deciduous. **Flower** calyx 1.1-1.8 mm long, densely appressed pubescent; corolla 2.1-3.3 mm long, densely appressed pubescent; stamen filaments 5.5-8.0 mm long; stipe of ovary to 0.4 mm long. **Legumes** 50-120 x 10-20 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 5-8 mm long; apex acuminate and usually beaked. **Seeds** near circular, 5-8 mm across, purplish brown; pleurogram U-shaped, 1.3-2.2 mm across.

Phenology: Flowering April-July.

Local Names: None known.

Conservation Status: This species has a very restricted distribution and occurs in widely scattered and fragmented populations (vulnerable).

Distribution: Thorn-scrub forests, thickets, rocky slopes and washes between 500 and 1600 m elevation in the states of Puebla and Oaxaca, Mexico.

Discussion: Rose (1903) indicated only the single collection *Rose & Hough 4680* in the protologue for *Acacia compacta*, but no herbarium of deposit nor designation of type was indicated. The current designation of the US lectotype among the known duplicates clarifies this. The US type has representative material, including flowers and fruit. *Mariosousa compacta* is a much-branched shrub that rarely exceeds 3 m in height. All material of this species that has been examined is from xeric habitats, usually on rocky slopes and in washes, where *M. compacta* forms small thickets (Rico Arce and Rodríguez 1998).

4. *Mariosousa coulteri* (Benth. in A. Gray) Seigler & Ebinger, in Seigler et al., Novon 16(3): 417. 2006a. Basionym: *Acacia coulteri* Benth. in A. Gray, Smithsonian Contr. Knowl. 3(5): 66-67. [Pl. Wright., Pt. 1.] 1852, as "*Coulteri*." *Senegalia coulteri* (Benth. in A. Gray) Britton & Rose, N. Amer. Fl. 23(2): 112. 1928. **TYPE:** México. Hidalgo: Zimapán, *T. Coulter s.n.* (lectotype, designated here, K [barcode] K000081894, K Neg. No. 15548 [fls., sketch of fruit; Hb. Bentham., 1854 stamp], K photos at F, GH, MEXU, MICH, MO; isolectotype, US [bc] US00000577, K fragm., photo at US). (Fig. 4)

Shrub or small **tree** to 15 m tall; bark dark gray, shallowly furrowed; twigs light brown to greenish brown, not flexuous, glabrous to lightly appressed puberulent; short shoots absent. **Leaves** alternate, 50-150 mm long; stipules narrowly linear, 0.8-2.5 x 0.2-0.5 mm near the base, glabrous, tardily deciduous; petioles adaxially shallowly grooved, 20-55 mm long, usually lightly appressed puberulent, minute purple glands absent; petiolar gland solitary, located on the upper third of the petiole and commonly just below the lowermost pinna pair, sessile, circular to slightly oblong, 0.5-1.6 mm across, usually doughnut-shaped, glabrous, rarely absent; rachis adaxially shallowly grooved, 20-100 mm long, lightly puberulent, minute purple glands absent, a sessile, cup-shaped gland, 0.4-0.9 mm across, between the upper pinna pair and sometimes others; pinnae (3)4 to 11 pairs/leaf, 35-90 mm long, 6-12 mm between pinna pairs; paraphyllidia 0.3-0.7 mm long; petiolules 2-6 mm long; leaflets 18 to 38 pairs/pinna, opposite, 1.5-2.3 mm between leaflet pairs, oblong, 4.5-7.5 x 1.4-2.1 mm, glabrous above, lightly appressed pubescent beneath, lateral veins obvious, 1 to 3 veins from the base, margins usually ciliate, apex broadly acute to obtuse, midvein

subcentral. **Inflorescence** a loosely flowered cylindrical spike 50-100 mm long, 1 to 4 from the leaf axil, or rarely in terminal racemose clusters; peduncle 7-13 x 0.5-1.0 mm, usually puberulent; floral bracts linear, to 1 mm long, puberulent, early deciduous. **Flower** calyx 1.2-1.7 mm long, lightly appressed pubescent; corolla 1.9-2.6 mm long, lightly appressed pubescent; stamen filaments 5.0-7.2 mm long; stipe of ovary to 0.4 mm long. **Legumes** 100-185 x 16-25 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 11-15 mm long; apex acute to acuminate. **Seeds** circular to nearly oblong, 7.3-10.5 x 5.5-8.5 mm, dark reddish brown; pleurogram U-shaped, 2.2-3.5 mm across.

Phenology: Flowering April-August.

Local Names: tepeguaje, palo de acro (Rico Arce 2001).

Conservation Status: Least Concern.

Distribution: Open dry forest, dense thorn scrub thickets, and dry rocky slopes below 1800 m elevation in the foothills and mountains of northeastern Mexico in the states of Coahuila, Guanajuato, Hidalgo, Nuevo León, Querétaro, San Luis Potosí, and Tamaulipas.

Discussion: Gray (1852: 62) acknowledged that “the characters of this and several other new Mimoseae were obligingly communicated by Mr. Bentham.” The description of *Acacia coulteri* and its infrageneric assignment as *Vulgares Nudiflorae*, were enclosed by quote marks by Gray, followed by the statement “Benth. in litt.” In the protologue for *Acacia coulteri*, Bentham (in Gray, 1852: 66) noted one collection by name, “Coulter; without any number,” which is specified here as the lectotype.

As employed by Rico Arce & Rodríguez (1998), Rico Arce and Fonseca (2005 [2006a]), Rico Arce (2001, 2003, 2007a, 2007b, and Cué Bär et al. (2006), the names *Acacia coulteri* and *Acacia coulteri* var. *coulteri* corresponded to both *Mariosousa salazarii* Britton & Rose) Seigler & Ebinger and *Mariosousa coulteri* (Benth. in A. Gray) Seigler & Ebinger as these species were considered by them to be synonymous. The stipules of *Mariosousa coulteri* seedlings are somewhat spinescent but are only weakly rigid after the first leaf stage and become progressively smaller and less rigid on older plants (Vassal 1972). This species is common in northeastern Mexico with most of the collections from roadsides and rocky pastures. It is abundant in the states of Tamaulipas and San Luis Potosí but becomes less common to the south. The only other species of this genus found within the range of *M. coulteri* is *M. mammifera*.

5. *Mariosousa dolichostachya* (S. F. Blake) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Acacia dolichostachya* S. F. Blake, Proc. Biol. Soc. Washington 34(6): 43-44. 1921. *Senegalia dolichostachya* (S. F. Blake) Britton & Rose, N. Amer. Fl. 23(2): 112. 1928. **TYPE:** México. Yucatán: “Las Bocas de Silám,” May 1916, *G. F. Gaumer & Sons* 23329 (holotype, F-446819 [barcode] V0057986F [fls.], F photo Neg. No. 53553, F photos at CICY, E, NY; isotypes, E [bc] E00346085 [fls.], G [bc] G00364604 [fls.], G fragm. ex F, GH [bc] GH00058228 [fls.], GH photo at MEXU, K [bc] K000081900 [fls.], NY [bc] NY00001469, type fragm., photo, US [bc] US00000205 [fls.], US [bc] US00930671, type fragm., photo, W [bc] W 1929-0010582). (Fig. 5)

Small **tree** to 15 m tall; bark dark brown to dark gray, scaly in rectangular plates; twigs light brown to greenish brown, not flexuous, glabrous; short shoots absent. **Leaves** alternate, 40-120 mm long; stipules narrowly triangular, 0.5-1.3 x 0.1-0.5 mm near the base, glabrous, persistent; petiole adaxially shallowly grooved, 30-80 mm long, glabrous, minute purple glands absent; petiolar gland solitary, usually located on the lower half of the petiole, sessile, circular to more commonly oblong, 1.0-3.0(4.1) mm long, flattened or with slightly raised margins, glabrous, sometimes absent and rarely two; rachis adaxially grooved, 20-65 mm long, lightly puberulent, minute purple glands absent, a sessile, saucer-shaped gland, 0.6-1.5 mm across, between the upper 1 to 2 pinna pairs; pinnae 2 to 7(8) pairs/leaf, 40-75 (90) mm long, 3-9 mm between pinna pairs; paraphyllidia 0.3-0.7 mm long, sometimes absent; petiolules 0.5-4.0 mm long; leaflets 36 to 65 pairs/pinna, opposite, 0.7-1.2 mm between leaflet pairs, oblong, 3.5-6.5 (7.5) x 0.8-1.3(1.4) mm, glabrous, lateral veins usually not obvious, 1 vein from the base, margins ciliate, apex broadly acute to obtuse, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 20-90 mm long, 1 to 3 from

the leaf axil, or rarely in terminal racemose clusters; peduncle 3-10 x 0.5-0.9 mm, glabrous to lightly puberulent; floral bracts linear, to 1 mm long, glabrous to lightly pubescent, usually not deciduous.

Flower calyx 0.5-1.2 mm long, lightly appressed pubescent; corolla 1.2-2.2 mm long, lightly appressed pubescent; stamen filaments 3-5 mm long; stipe of ovary to 0.3 mm long. **Legumes** 70-160 x 12-20 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 8-12 mm long, apex acute to acuminate. **Seeds** nearly circular to oval, 5-7 mm across, purplish brown; pleurogram U-shaped, 1.5-2.2 mm across.

Phenology: Flowering April-July.

Local Names: None known.

Conservation Status: According to Rico Arce (2001) the natural habitat of this species has been considerably reduced and this species is listed as vulnerable.

Distribution: Common in thorn-scrub thickets, and disturbed wet forests in the lowlands of the states of Campeche, Chiapas, Quintana Roo and Yucatán, Mexico. Rico Arce (2001) lists this species for the Central American countries of Belize, Guatemala, and Nicaragua.

Discussion: Most specimens of *Mariosousa dolichostachya* which we have examined have a solitary petiolar gland located along the lower third of the petiole. However, rare individuals occasionally have two glands along the petiole. We have found one specimen from near Xpuijl (Campeche, Mexico) where a petiolar gland was located just below the lowermost pinna pairs as well as a second near the middle of the petiole (Seigler & Maslin 16044, ILL).

6. *Mariosousa durangensis* (Britton & Rose) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Senegalia durangensis* Britton & Rose, N. Amer. Fl. 23(2): 112. 1928. *Acacia durangensis* (Britton & Rose) Jawad et al., Ann. Missouri Bot. Gard. 87(4): 541-542. 2000 [Jan. 2001]. *Acacia coulteri* Benth. var. *durangensis* (Britton & Rose) L. Rico, Amer. Sp. *Acacia*, 72-73. 2007. **TYPE:** México. Durango: San Ramón, 21 Apr.-18 May 1906, *E. J. Palmer 107* (lectotype, designated here, NY [barcode] NY00003311-02 [fls., fr.], NY photo at MEXU; isoelectotypes, CM [bc] CM1099 [fls.], CM [bc] CM1100 [fls.], F-212906 [bc] V0058766F [fls.], F Neg. No. 72673, GH [bc] GH000582229 [fls.], GH [bc] GH00058231 [fls., fr.], K [bc] K000081895 [fls.], MO-197149 [bc] MO001844489 [fls.], NY [bc] NY00003311-01 [fls.], UC [bc] UC84875, US [bc] US000000688 [fls.], US [bc] US000731290 [fls.], US [bc] US000731291 [st.]). (Fig. 6)

Shrub or small **tree** to 5 m tall; bark dark gray, shallowly fissured; twigs light brown, not flexuous, puberulent; short shoots absent. **Leaves** alternate, 65-160 mm long; stipules narrowly triangular, 1.0-2.5 x 0.3-0.9 mm near the base, puberulent, persistent; petiole adaxially grooved, 30-50 mm long, puberulent and with erect hairs to 0.2 mm long, minute purple glands absent; petiolar gland solitary, located near the middle of the petiole, sessile, an elliptical mound, 1.1-2.2 mm long, apex irregularly raised with a few indentations, glabrous; rachis adaxially grooved, 50-130 mm long, puberulent, minute purple glands absent, a sessile, flattened gland, 0.4-0.8 mm across, between the upper 1 to 2 pinna pairs; pinnae 2 to 13 pairs/leaf, 45-85 mm long, 8-14 mm between pinna pairs; paraphyllidia 0.3-0.7 mm long; petiolules 2.0-4.0 mm long; leaflets 16 to 40 pairs/pinna, opposite, 1.3-2.1 mm between leaflet pairs, oblong, 5.0-7.5 x 1.3-2.1 mm, loosely pubescent on both surfaces with appressed hairs, commonly purplish above, light green to purplish green beneath, lateral veins obvious, 1 to 3 veins from the base, margins ciliate, apex obtuse to acute; midvein submarginal. **Inflorescence** a loosely flowered cylindrical spike 60-120 mm long, solitary (rarely 2) from the leaf axil, or rarely in short racemose clusters; peduncle 5-15 x 1.0-1.8 mm, puberulent; floral bracts linear, to 1 mm long, pubescent, early deciduous. **Flower** calyx, 1.0-1.4 mm long, densely appressed pubescent; corolla 2.0-3.0 mm long, densely appressed pubescent; stamen filaments 5.5-7.5 mm long; stipe of ovary to 0.4 mm long. **Legumes** 80-120 x 16-22 mm, cartilaginous, transversely striate, glabrous to lightly puberulent, eglandular; stipe 7-10 mm long; apex acuminate and usually beaked. **Seeds** not seen.

Phenology: Flowering April-June.

Local Names: None known.

Conservation Status: We have only seen four specimens including the type and agree with Rico Arce (2001) that this taxon be placed as data deficient.

Distribution: Thorn scrub forests and dry thickets, 1500 to 2200 m elevation in the states of Chihuahua, Durango, and Jalisco, Mexico.

Discussion: Britton and Rose (1928) referred to a single collection in the protologue for *Senegalia durangensis*, with no indication as type or herbarium of deposit. The NY lectotype clarifies the type among the several known duplicates, and this was first recognized by Ebinger (January 1998 determination label). Rico Arce (2007b) used the name *Acacia coulteri* var. *durangensis* to refer to probable variants of *Acacia coulteri* sensu Jawad et al. (2000 [2001]) in El Bajío, México.

The petiolar gland is the most distinctive feature of *M. durangensis*. Other species of this genus have a flat or doughnut- or torus-shaped gland, or the gland is stalked. In *M. durangensis*, in contrast, the sessile gland appears as an elliptical mound, with a few indentations. On herbarium specimens, this gland has a purple color, and rarely a few long hairs on its surface.

7. *Mariosousa gentryi* Seigler & Ebinger, *Phytologia* 103(3): 69-72, fig. 1. 2021. **TYPE:** Mexico. Sinaloa. Small tree with yellow peeling bark, rocky volcanic slopes with coastal thorn forest, Cerros de Navachiste about Bahía Topolobampo, 26-30 Sep 1954, *H. S. Gentry 14337* (holotype, MICH; isotypes, LL, US). (Fig. 7)

Small **tree**; bark smooth, yellow, exfoliating and papery; twigs light brown to greenish brown, becoming dark reddish purple, not flexuous, glabrous to puberulent; short shoots absent. **Leaves** alternate, 30-220 mm long; stipules narrowly linear, 2-5 x 0.2-0.4 mm near the base, glabrous, persistent; petiole shallowly grooved to nearly terete in cross section, 20-130 mm long, glabrous, minute purple glands absent; petiolar gland usually absent, sometimes located between the lowermost pinna pair, sessile, circular, 0.5-1.2 mm across, globose to doughnut-shaped, glabrous; rachis not grooved, 30-130 mm long, glabrous, minute purple glands absent, a small globose gland 0.3-0.8 mm between the uppermost, and sometimes more pinna pairs; pinnae 2 to 7 pairs/leaf, 40-80 mm long, 4-40 mm between pinna pairs; paraphyllidia 0.6 mm long, commonly absent; petiolules 3-6 mm long; leaflets 15 to 25 pairs/pinna, opposite, 1.8-3.3 mm between leaflet pairs, oblong to elliptic, 4.5-10.0 x 0.9-2.2 mm, glabrous, lateral veins not obvious, only one vein from the base, margins not ciliate, apex narrowly acute to acuminate, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 40-80 mm long, solitary (rarely 2) from the leaf axil; peduncle 8-20 x 0.5-0.8 mm, puberulent; floral bracts linear, to 1.2 mm long, glabrous to lightly pubescent, early deciduous. **Flower** calyx 1.4-2.0 mm long, lightly appressed pubescent; corolla 2.4-3.2 mm long, lightly appressed pubescent; stamen filaments 7.0-9.0 mm long; stipe of ovary to 0.1 mm long. **Legumes** 50-140 x 13-20 mm, chartaceous, transversely to irregularly striate, glabrous, eglandular; stipe to 11 mm long; apex obtuse to acute. **Seeds** oval to near circular, 6.4-11.0 x 4.5-8.0 mm, dark purplish brown; pleurogram U-shaped, 2.5 mm across.

Phenology: Flowering July.

Local Names: None known.

Conservation Status: Considering the lack of material, and the possible hybrid origin, we consider the status of this taxon to be data deficient.

Distribution: Arid hills, rocky slopes and thorn-scrub forests at lower elevations in northern Sinaloa, Mexico, in the general area of the towns of Bahía Topolobampo and Los Mochis.

Discussion: We originally considered that *Mariosousa gentryi* was of hybrid origin with *M. heterophylla* and *M. russelliana* being the putative parents (Jawad et al. 2000: 547). However, *M. heterophylla* is restricted to northern and central Sonora, well north of the range of *M. gentryi* in northern Sinaloa, Mexico. This taxon is similar to *M. heterophylla* in being small trees with exfoliating, papery bark, having petioles that sometimes exceed 100 mm in length, leaflets fewer than 26 pairs per pinna, and some pinnae that exceed 55 mm in length. They are similar to *M. russelliana* in having stipules 2-5 mm long, petioles that are shallowly grooved, and leaves with up to seven pinna pairs. Only a few specimens of this new taxon are available for study, none of which come from the area where *M. heterophylla* and *M. russelliana* are known to be sympatric.

Being restricted to a small area of northern Sinaloa, this taxon is more than 100 km south of the presently known range of *M. heterophylla*. We have tentatively concluded that *M. gentryi* represents a distinct species with a very limited geographic distribution. More information, including fieldwork and DNA analysis, will be necessary to determine the status of this taxon (Seigler and Ebinger 2021).

8. *Mariosousa heterophylla* (Benth.) Seigler & Ebinger, *Phytologia* 100(4): 257. [21 Dec.] 2018. Basionym: *Prosopis heterophylla* Benth., *London J. Bot.* 5: 82. 1846, as “*P. ? heterophylla*.” *Senegalia heterophylla* (Benth.) Britton & Rose, *N. Amer. Fl.* 23(2): 114. 1928. **TYPE:** México. Sonora: “Sonora alta,” 1830, *T. Coulter s. n.* (holotype, TCD). [= *Acacia willardiana* Rose in Vasey & Rose, 1890; = *Mariosousa willardiana* (Rose) Seigler & Ebinger in Seigler et al., 2006a.] (Fig. 8)

Tree to 10 m tall; bark smooth, white to reddish yellow, exfoliating and papery; twigs light gray, becoming dark reddish purple, not flexuous, glabrous; short shoots absent. **Leaves** alternate, 30-400 mm long; stipules narrowly linear, 0.5-1.1 x 0.1-0.2 mm near the base, glabrous, tardily deciduous; petiole adaxially flattened, not grooved, 20-400 mm long, usually glabrous, minute purple glands absent; petiolar gland solitary, located between to just below the lowermost pinna pair, rarely near the lower part of the petiole, sessile, nearly circular, 0.2-1.1 mm across, doughnut-shaped, glabrous; rachis flattened, not grooved, 0-100 mm long, glabrous, minute purple glands absent, a sessile, circular gland 0.2-1.1 mm across between most pinna pairs; pinnae 1 (rarely 2 or 3) pairs/leaf, 16-80 mm long; paraphyllidia absent; petiolules 2.5-10.0 mm long; leaflets 4 to 25 pairs/pinna, opposite, 1-5 mm between leaflet pairs, oblong to elliptic, 3.0-7.5(12.0) x 1.0-2.5 mm, glabrous to rarely lightly pubescent with appressed hairs on both surfaces, lateral veins not obvious, 1 vein from the base, margins glabrous to lightly ciliate, apex narrowly acute to acuminate, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 30-90 mm long, solitary from the leaf axil, or in short racemose clusters; peduncle 5-25 x 0.4-0.8 mm, glabrous or nearly so; floral bracts linear, to 1 mm long, glabrous to lightly pubescent, early deciduous. **Flower** calyx 1.0-2.2 mm long, glabrous; corolla 2.2-3.6 mm long, glabrous; stamen filaments 6-8 mm long; stipe of ovary to 1 mm long. **Legumes** 70-180 x 8-22 mm, chartaceous, irregularly striate, glabrous, eglandular; stipe 10-14 mm long; apex obtuse. **Seeds** nearly circular, 6-12 mm across, dark brown; pleurogram not obvious, when present, U-shaped, 1.5-2.2 mm across.

Phenology: Flowering February-June.

Local Names: palo blanco, cap (Seri), nawi'o (Yaqui), Willard's acacia (Rico Arce 2001).

Conservation Status: Though native populations appear to be restricted to the state of Sonora, Mexico, this species is very common there. Least Concern.

Distribution: Arid hills, rocky slopes and washes in desert scrub vegetation between sea level and 500 m elevation in northern and central Sonora, Mexico.

Discussion: There is a fruiting specimen at TCD (barcode, TCD0000916) from Sonora Alta, 1830, that is filed as type for *Prosopis heterophylla* and might be further investigated. The collector is not named and a collection number is given as 526. Bentham mentioned *Coulter* as the single collector in the protologue for *P. heterophylla*, without collection number. Bentham remarked “I have seen but a single specimen in the herbarium of Trinity College, Dublin.” (1846: 82). A proposal to conserve the name *Acacia willardiana* Rose against *Prosopis heterophylla* Benth. (Seigler & Ebinger, 2008) was declined (Brummitt 2011; Barrie 2011).

A common species at lower elevations in the state of Sonora, *Mariosousa heterophylla* is a very conspicuous component of the desert scrub of this region because of its nearly white, to yellowish, to almost reddish, papery, exfoliating bark. Bentham (1846) tentatively assigned this taxon to *Prosopis heterophylla* based on a single fruiting specimen. He suggested that the general habit of the plant was more like that of *Prosopis* than any other genus and mentioned the almost phyllodinous vertical expansion of the petiole. Based on flowering material, Vasey and Rose (1890) realized that this taxon was an *Acacia* and used the name *Acacia willardiana*. A proposal to conserve the name *A. willardiana* Rose against *Prosopis heterophylla* Benth. (Seigler & Ebinger, 2008) was declined (Brummitt 2011; Barrie 2011). *Mariosousa*

heterophylla commonly has 90 to 115+ separate stamens per flower, nearly twice the number found in the other taxa of the genus *Mariosousa*.

9. *Mariosousa mammifera* (Schltdl.) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Acacia mammifera* Schltdl., Linnaea 12(5): 563-564. 1838. *Senegalia mammifera* (Schltdl.) Britton & Rose, N. Amer. Fl. 23(2): 112. 1928. **TYPE:** México. Hidalgo: “Barranca de Acholoya,” Nov. 1845, *C. A. Ehrenberg 845* (lectotype, designated here, HAL [barcode] HAL0071840 [frs.]; isolectotypes, G [bc] G00364607, NY [bc] NY00001481, UC [bc] UC158125, UC [bc] UC453776, UC [bc] UC453796), US [bc] US00000245). (Fig. 9)

Shrub or small **tree** to 5 m tall; bark dark gray, shallowly fissured; twigs light brown to purplish-brown, not flexuous, usually puberulent; short shoots absent. **Leaves** alternate, 30-130 mm long; stipules narrowly triangular, 1.2-2.5 x 0.2-0.7 mm near the base, glabrous to puberulent, persistent; petiole adaxially grooved, 8-50(70) mm long, glabrous to lightly puberulent, minute purple glands usually present; petiolar gland solitary, located between the lowermost pinna pair or rarely along the upper half of the petiole, sessile to short-stalked, circular, 0.4-0.8 mm across, apex globose, glabrous; rachis adaxially grooved, 10-70 mm long, puberulent, minute purple glands usually present, a stalked gland with a globose apex, 0.4-0.6 mm across, between most pinna pairs; pinnae 1 to 6(9) pairs/leaf, 30-85 mm long, 6-15(25) mm between pinna pairs; paraphyllidia 0.3-0.7 mm long, sometimes absent; petiolules 2.0-3.8(4.5) mm long; leaflets 9 to 26(33) pairs/pinna, opposite, 1-5 mm between leaflet pairs, oblong, 4-12 x 1.5-3.5 (4.5) mm, lightly pubescent on both surfaces with appressed hairs, commonly purplish above, light green to purplish green beneath, lateral veins mostly obvious, 1 to 4 veins from the base, margins ciliate, apex obtuse to broadly acute, midvein submarginal. **Inflorescence** a loosely flowered cylindrical spike 30-90 mm long, solitary (rarely 2) from the leaf axil; peduncle 6-15(40) x 0.7-1.1 mm, puberulent; floral bracts linear, to 1.4 mm long, pubescent, early deciduous. **Flower** calyx 1.3-2.0 mm long, lightly appressed pubescent; corolla 2.2-3.5 mm long, lightly appressed pubescent; stamen filaments 6.5-8.5 mm long; stipe of ovary to 0.3 mm long. **Legumes** 80-240 x 18-34 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 8-12 mm long; apex acuminate and usually beaked. **Seeds** nearly circular, 8.0-10.5 mm across, dark brown; pleurogram U-shaped, 3-4 mm across.

Phenology: Flowering April-June.

Local Names: None known.

Conservation Status: Least concern.

Distribution: Thorn scrub forests and from the pinyon-juniper zone in dry thickets, and rocky slopes from 1300 to 2700 m elevation in the state of Guanajuato, Hidalgo, Nuevo León, Oaxaca, Puebla, Querétaro, San Luis Potosí, and Tamaulipas, Mexico.

Discussion: Schlechtendal (1838: 563) noted “Barranca de Acholoya Nov. fructis,” for an Ehrenberg collection in the protologue for *Acacia mammifera*. The original label at sheet lower left of *Ehrenberg 845* (HAL) corresponds to the type locality and month and the novel species name is inferred to have been written in Schlechtendal's hand. Among the several duplicates known, a fruiting specimen in good condition at HAL was chosen as lectotype. A second collection *Ehrenberg 847* may also represent type material.

Mariosousa mammifera is widely distributed throughout the central part of Mexico from the state of Oaxaca, north to Tamaulipas and Nuevo León. It does not appear to be a common species, many of the collections being from near the same localities in the various states. All collections examined are from above 1300 m. This may have been due to local distributions or to collectors' bias.

10. *Mariosousa millefolia* (S. Watson) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Acacia millefolia* S. Watson, Proc. Amer. Acad. Arts 21, new ser., 13: 427. 1886. *Senegalia millefolia* (S. Watson) Britton & Rose, N. Amer. Fl. 23(2): 111. 1928. **TYPE:** México. Chihuahua: “Hacienda San José, near Batopilas,” Aug. 1885, *E. J. Palmer 45* (lectotype, designated by Isely [1969: 379], GH [barcode] GH00058244; isolectotypes, K [bc] K000081901, MEXU, NY [bc] NY00001484, NY

[bc] NY00001483, US [bc] US00000253, US [bc] US00000254, US [bc] US00997056, US [bc] US01108116, US [bc] US01108117). (Fig. 10)

Shrub or small **tree** to 3 m tall; bark gray, smooth when young, becoming fissured into square plates 1-2 cm across; twigs light brown to greenish brown, not flexuous, usually lightly puberulent; short shoots absent. **Leaves** alternate, 60-230 mm long; stipules narrowly linear, 1.5-6.5 x 0.2-0.6 mm near the base, usually glabrous, persistent; petiole adaxially grooved, 15-75 mm long, usually glabrous, minute purple glands absent; petiolar gland mostly absent (when found the gland is between or near the lowermost pinna pair and similar to the gland terminating the rachis); rachis adaxially grooved, 50-190 mm long, glabrous to lightly pubescent, minute purple glands absent, a stalked gland with a globose apex, 0.3-0.9 mm across, between the upper 1 to 4 pinna pairs; pinnae (2)6 to 14 pairs/leaf, 20-55 mm long, (4)10-28 mm between pinna pairs; paraphyllidia 0.3-0.7 mm long; petiolules 2.0-5.5 mm long; leaflets 20 to 35(37) pairs/pinna, opposite, 0.8-1.6 mm between leaflet pairs, oblong, 2.0-6.5 x 0.7-1.4 mm, glabrous above, lightly pubescent beneath with appressed hairs, lateral veins not obvious, 1 vein from the base, margins sometimes ciliate, apex acuminate, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 30-75 mm long, solitary (rarely 2 to 3), from the leaf axil; peduncle 5-15 x 0.3-0.8 mm, glabrous to lightly puberulent; receptacle not enlarged; floral bracts linear, to 1.3 mm long, glabrous to lightly pubescent, early deciduous. **Flower** calyx 1.1-1.6 mm long, glabrous; corolla 2.0-2.7 mm long, glabrous; stamen filaments 4.5-6.5 mm long; stipe of ovary to 0.4 mm long. **Legumes** 55-170 x 12-23 mm, chartaceous, irregularly striate, glabrous, eglandular; stipe 8-12 mm, apex acute to obtuse. **Seeds** nearly circular, 6.2-9.5 mm across, dark brown; pleurogram U-shaped, 2-3 mm across.

Phenology: Flowering June-August.

Local Names: fernleaf acacia, milfoil, Santa Rita acacia, tepemesquite blanco.

Conservation Status: Least Concern.

Distribution: Desert grasslands, rocky slopes, subtropical scrub, and open oak woodlands from 700 to 1700 m elevation in southern Arizona, extreme southwestern New Mexico, and south into the states of Chihuahua and Sonora, Mexico.

Discussion: For the name *Acacia millefolia*, a syntype was seen as *C. G. Pringle 125* at GH (barcode, GH00283182) as well as other Pringle collections that are not typic, seen at A (barcode, A00283183), F (barcode, V0092364F), JE (barcode, JE00019747), NY (barcodes, NY00001442, NY00001443), and PH (50139, 50140, 50141, 50143).

Though numerous specimens are available from throughout most of the geographic range of this taxon, no specimen, other than the type collection, is known from Chihuahua. This taxon may be extremely rare in southwestern Chihuahua, or it is possible that the collecting data on the type specimens is incorrect. This collection, *Palmer 45*, which was designated as the lectotype by Isley (1969), is more than 100 km east of any specimens of *M. millefolia* seen by the present authors, and the only specimen we have seen from the state of Chihuahua. Also, *M. millefolia* is extremely rare in New Mexico. We have seen only one collection from the extreme southwestern corner of Hidalgo County, New Mexico, about 1 km from the Arizona/New Mexico border (*R. Spellenberg & R. Repass 5371*, NMC).

11. *Mariosousa russelliana* (Britton & Rose) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Senegalia russelliana* Britton & Rose, N. Amer. Fl. 23(2): 112. 1928, as "*Russelliana*." *Acacia russelliana* (Britton & Rose) Lundell, Contr. Univ. Michigan Herb. 4: 7. 1940. **TYPE:** México. Sinaloa: "vicinity of San Blas," 22 Mar. 1910, *J. N. Rose, P. C. Standley & P. G. Russell 13204* (lectotype, designated here, US-636032 [barcode] US00000711 [fls.]; isolectotypes, GH [bc] GH00057355 [fls.], NY [bc] NY00003325 [fls.]). (Fig. 11)

Shrub or small **tree** to 8 m tall; bark dark-gray, shallowly furrowed; twigs light brown to greenish brown, not flexuous, glabrous; short shoots absent. **Leaves** alternate, 60-140 mm long; stipules narrowly linear, 0.6-2.5 x 0.2-0.6 mm near the base, glabrous, tardily deciduous; petiole adaxially shallowly grooved, 20-50 mm long, glabrous, minute purple glands absent; petiolar gland solitary, located near the middle of the

petiole to just below the lowermost pinna pair, sessile, usually circular, 0.4-1.5 mm across, doughnut-shaped to urn-shaped, glabrous, rarely absent; rachis adaxially shallowly grooved, 30-90 mm long, glabrous, minute purple glands absent, rarely a sessile, doughnut-shaped gland, 0.4-0.9 mm across, between the uppermost pinna pair; pinnae (2)4 to 11 pairs/leaf, 25-70 mm long, 4-12 mm between pinna pairs; paraphyllidia absent; petiolules 2.0-3.5 mm long; leaflets 18 to 40 pairs/pinna, opposite, 0.9-1.8 mm between leaflet pairs, oblong, 3.5-7.5 x 1.2-1.8 mm, glabrous, lateral veins obvious, 1 to 4 veins from the base, margins sometimes lightly ciliate, apex obtuse to broadly acute, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 25-60 mm long, solitary (rarely 2 to 3) from the leaf axil, or rarely in terminal racemose clusters; peduncle 1-10 x 0.4-0.7 mm, glabrous; floral bracts linear, to 1 mm long, glabrous, early deciduous. **Flower** calyx 0.9-1.4 mm long, glabrous; corolla 1.7-2.5 mm long, glabrous; stamen filaments 4.5-6.5 mm long; stipe of ovary to 0.4 mm long. **Legumes** 55-170 x 16-27 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 5-15 mm long, apex acute to obtuse, sometimes beaked. **Seeds** circular to oval, 6.8-9.6 x 5.1-8.0 mm, reddish-brown; pleurogram U-shaped, 2-3 mm across.

Phenology: Flowering March-August.

Local Names: None known.

Conservation Status: Least Concern.

Distribution: Dry, deciduous, tropical forests to thorn-scrub and desert-scrub vegetation, mostly on rocky slopes, from near sea level to about 1000 m elevation in the states of Sinaloa, and Sonora, Mexico.

Discussion: In the protologue for *Senegalia russelliana*, Britton and Rose (1928) mentioned the collection (*Rose et al. 13204*) as type but did not provide further detail for any herbaria of deposit. The US specimen chosen here for the lectotype is in good flowering condition, with more vegetative material than the other two duplicates. The US sheet was earlier annotated as lectotype by Ebinger (January 1998 determination), but the action was not published.

A small shrub or understory tree, *Mariosousa russelliana* is encountered in southern Sonora and northern Sinaloa where it appears to be common. It is also found as an understory tree in tropical deciduous forests. We originally thought that *M. russelliana* may occasionally hybridize with *M. willardiana* in southern Sonora and northern Sinaloa, Mexico, but more detailed studies indicate that this is unlikely.

12. *Mariosousa salazarii* (Britton & Rose) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Senegalia salazarii* Britton & Rose, N. Amer. Fl. 23(2): 113. 1928, as "*Salazari.*" *Acacia salazarii* (Britton & Rose) Lundell, Contr. Univ. Michigan Herb. 4: 8. 1940. **TYPE:** México. Michoacán: Xochiapa, 13 Apr. 1912, *F. Salazar s. n.* (lectotype, designated here, US-1169811 [bc] US00000712 [fls.]; isolectotypes, MEXU [bc] MEXU00030013 [fls.], NY [barcode] NY00003326 [fls.], fragm. ex US). (Fig. 12)

Tree to 15 m tall; bark smooth, yellow to red or light gray, exfoliating and papery; twigs greenish brown to light reddish brown, not flexuous, usually glabrous; short shoots absent. **Leaves** alternate, 50-180 mm long; stipules narrowly linear, 0.9-5.5 x 0.2-0.6 mm near the base, glabrous, persistent; petiole adaxially grooved, 20-50(60) mm long, mostly glabrous, minute purple glands absent; petiolar gland solitary, located between the lowermost pinna pair, sessile, nearly circular, 0.5-1.3 mm across, globose to doughnut-shaped, commonly absent; rachis adaxially grooved, 35-140 mm long, glabrous to lightly puberulent, minute purple glands absent, a sessile, doughnut- to saucer-shaped gland, 0.5-1.0 mm across, between the upper 1 to 2(3) pinna pairs; pinnae (3)7 to 20 pairs/leaf, 35-63 mm long, 4-15 mm between pinna pairs; paraphyllidia 0.3-0.8 mm long; petiolules 2.4-4.0 mm long; leaflets 20 to 38 pairs/pinna, opposite, 0.8-1.6 mm between leaflet pairs, oblong, 2.5-6.4 x 0.9-1.7 mm, usually lightly pubescent with appressed hairs beneath, commonly light greenish-purple and glabrous above, lateral veins usually not obvious, 1(2) veins from the base, margins usually ciliate, apex narrowly acute to acuminate, midvein subcentral. **Inflorescence** a loosely flowered, cylindrical spike 45-110 mm long, 1 to 3 from the leaf axil, or rarely in terminal racemose clusters; peduncle 5-10 x 0.5-1.0 mm, lightly puberulent; floral bracts linear, to 1 mm long, puberulent,

early deciduous. **Flower** calyx 1.5-2.3 mm long, lightly appressed pubescent; corolla 2.5-3.5 mm long, lightly appressed pubescent; stamen filaments 4.5-7.5 mm long; stipe of ovary to 0.3 mm long. **Legumes** 115-180 x 20-35 mm, chartaceous, transversely striate, glabrous, eglandular; stipe 9-15 mm long; apex obtuse. **Seeds** circular to oblong, 10.0-14.5 x 7-12 mm, dark reddish brown; pleurogram U-shaped, 1.2-3.0 mm across.

Phenology: Flowering April-June.

Local Names: None known.

Conservation Status: Least Concern.

Distribution: Thorn-scrub thickets, and disturbed dry forests from near sea level to 1800 m (but mostly above 1000 m) elevation in the states of Guerrero, México, Michoacán, Morelos, Oaxaca and Puebla, Mexico.

Discussion: The US lectotype chosen here for *Senegalia salazarii* has reasonable leaf material and is in flower. The protologue (Britton & Rose, 1928: 113) identified a “F. Salazar” collection” as “type” and this typification clarifies the herbarium of deposit. The US specimen was earlier annotated by J. E. Ebinger (January 1998 determination) as a lectotype, but the action was not published. Rico Arce (2003, 2007a, 2007b) treated materials that we have cited under *Mariosousa salazarii* as *Acacia coulteri*.

Mariosousa salazarii (Britton & Rose) Seigler & Ebinger, in Seigler et al. is similar to other species of this group from southern Mexico, particularly *M. centralis* and *M. usumacintensis*, but the papery, exfoliating bark allows for easy separation. Occasionally, petiolar glands are found on a few leaf petioles of some specimens of this species, but occasional specimens lack petiolar glands altogether. These glands are usually located between the lowermost pinna pair, are sessile, nearly circular, 0.5-1.3 mm across, and globose to doughnut-shaped.

13. *Mariosousa sericea* (M. Martens & Galeotti) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Acacia sericea* M. Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles, ser. 2, 10(2): 311. 1843. *Senegalia sericea* (M. Martens & Galeotti) Britton & Rose, N. Amer. Fl. 23(2): 111. 1928. **TYPE:** México. Puebla: Tehuacán, “les montagnes calcaires à l’est de Tehuacán,” 6,000 ft, May 1840, *H. Galeotti 3345* (lectotype, designated here, BR [barcode] BR0000005187720 [fls.]; isolectotypes, BR [bc] BR0000005187065, G [bc] G00364595, K [bc] K000081899, MICH, P, US [bc] US00000607, W [bc] W0004887, W-Rchb [bc] W-Rchb. 1889-0114051). [= *Acacia pueblensis* Brandege, 1910.] (Fig. 13)

Shrub or small **tree** 3 to 4 (6) m tall; bark dark gray, cracked and fissured, breaking away and leaving dark purplish brown, smooth areas; twigs dark brown to purplish-brown, not flexuous, glabrous to lightly pubescent; short shoots absent. **Leaves** alternate, 30-120 mm long; stipules narrowly linear, 3-8 x 0.2-0.6 mm near the base, glabrous to pubescent, usually persistent; petiole adaxially grooved, 10-30 mm long, densely pubescent with erect hairs to 0.3 mm long, minute purple glands present; petiolar gland solitary, located along the petiole, sessile, circular to elliptic, 0.6-1.2 mm long, saucer-shaped to cup-shaped, glabrous, sometimes absent; rachis adaxially grooved, 15-100 mm long, pubescent with erect hairs, minute purple glands present, a sessile, saucer-shaped gland, 0.5-1.1 mm across, between the upper 1 to 2 pinna pairs; pinnae 5 to 17 pairs/leaf, 25-49 mm long, 4-8 mm between pinna pairs; paraphyllidia absent; petiolules 1.0-2.4 mm long; leaflets 14 to 35 pairs/pinna, opposite, 0.6-1.5 mm between leaflets, oblong, 2.5-5.0 x 0.8-1.5 mm, lightly pubescent on both surfaces with appressed to erect hairs, lateral veins obvious, 1(3) vein from the base, margins ciliate, apex acute to obtuse, midvein subcentral. **Inflorescence** a densely flowered cylindrical spike 30-80 mm long, solitary from the leaf axil; peduncle 3-20 x 0.7-1.2 mm, densely pubescent with erect hairs; floral bracts linear, to 3.5 mm long, densely pubescent, deciduous. **Flower** calyx 1.5-2.2 mm long, densely pubescent with erect hairs; corolla 2.0-3.3 mm long, densely pubescent with erect hairs; stamen filaments 6-8 mm long; stipe of ovary to 0.3 mm long. **Legumes** 90-170 x 15-24 mm, cartilaginous, transversely striate, pubescent, usually with minute purple glands; stipe 7-14 mm long; apex acuminate and apiculate to 5 mm long. **Seeds** circular to oblong, 6.0-10.5 mm across, dark purplish brown; pleurogram U-shaped, 1.0-2.5 mm across.

Phenology: Flowering February-June.

Local Names: None known.

Conservation Status: Least concern.

Distribution: Rocky desert and dry thorn scrub forests from 1100 to 2000 m elevation in Puebla and Oaxaca, Mexico.

Discussion: Martens and Galeotti (1843) mentioned only the one collection (*Galeotti 3345*) in protologue for *Acacia sericea*. The current typification specifies one of the two BR specimens as lectotype among the known duplicates, which is a good-quality, flowering specimen. Also described from Puebla, México, the name *Acacia pueblensis* Brandegee was later synonymized by Britton and Rose (1928: 111).

Mariosousa sericea is distinct from most other members of the genus; the dense, erect pubescence on most parts of the plant makes it easy to distinguish this taxon. *Mariosousa sericea* is known from southeastern Puebla and adjacent Oaxaca where it occurs at higher elevation, usually above 1100 m elevation, in desert and thorn scrub forests. Most collections are from roadsides, usually in dry, disturbed habitats, and many are from the Tehuacán valley (Rico Arce and Rodríguez 1998).

Mariosousa sericea possibly hybridizes with *M. acatlensis* in areas where they are sympatric. Occasional specimens were encountered with reduced pubescence and many leaflet pairs per pinna, characteristics of *M. acatlensis*. More material is necessary before an accurate determination can be made.

14. *Mariosousa usumacintensis* (Lundell) Seigler & Ebinger, in Seigler et al., Novon 16(3): 419. 2006a. Basionym: *Acacia usumacintensis* Lundell, Contr. Univ. Michigan Herb. 4: 8. 1940. **TYPE:** México. Tabasco: “Boca Cerro on the Río Usumacinta above Tenosique,” 1-5 Jul. 1939, *E. Matuda 3550* (lectotype, designated here, MICH [barcode] MICH1107068 [frs.]; isoelectotypes, A [bc] A00058277, BM, F [bc] V0058005F, GH, K [bc] K000081896, LL [bc] LL00208534, M, MEXU [bc] MEXU00081078, MICH, NY [bc] NY00001504, P, US [bc] US00000631). (Fig. 14)

Tree to 30 m tall; bark dark gray, shallowly furrowed; twigs brown to greenish brown, not flexuous, glabrous to lightly puberulent; short shoots absent. **Leaves** alternate, 90-200 mm long; stipules narrow triangular, 1-4 x 0.4-0.7 mm near the base, glabrous to lightly puberulent, persistent; petiole adaxially shallowly grooved, 25-70 mm long, glabrous to lightly puberulent, minute purple glands absent; petiolar gland solitary, usually located on the lower third of the petiole, sessile, commonly elliptic, 1-6 mm long, flattened, glabrous; rachis adaxially grooved, 50-140 mm long, glabrous to lightly puberulent, minute purple glands absent, a sessile, saucer-shaped gland, 1.0-1.9 mm across, between the upper pinna pair; pinnae 7 to 15 pairs/leaf, 55-90 mm long, 5-15 mm between pinna pairs; paraphyllidia 0.1-0.7 mm long; petiolules 1.7-3.5 mm long; leaflets (33)36 to 55 pairs/pinna, opposite, 0.9-1.6 mm between leaflets, oblong, 4-7 x 1.2-1.9 mm, glabrous, lateral veins obvious, 1 to 4 veins from the base, margins ciliate, apex broadly acute to obtuse, midvein subcentral. **Inflorescence** a loosely flowered cylindrical spike 50-110 mm long, 1 to 3 from the leaf axil, or sometimes in terminal racemose clusters; peduncle 7-15 x 0.7-1.1 mm, puberulent; floral bracts linear, to 1 mm long, puberulent, early deciduous. **Flower** calyx 1.1-1.5 mm long, densely appressed pubescent; corolla 1.8-2.6 mm long, densely appressed pubescent; stamen filaments 4-6.5 mm long; stipe of ovary to 0.3 mm long. **Legumes** 90-250 x 20-33 mm, cartilaginous, transversely striate, glabrous, eglandular; stipe 17-22 mm long; apex acute. **Seeds** oblong to oval, 8.8-10.0 x 7.0-9.0 mm, dark reddish brown; pleurogram U-shaped, 3-5 mm across.

Phenology: Flowering April-June.

Local Names: None known.

Conservation Status: Least Concern.

Distribution: Moist tropical forests, along streams, and moist disturbed sites below 500 m elevation in Belize, Guatemala, and the states of Campeche, Chiapas, Oaxaca, Tabasco and Veracruz, Mexico.

Discussion: Lundell (1940:8) noted only the one collection for *Acacia usumacintensis*, with the “Type in the University of Michigan Herbarium.” Among those duplicates known for the collection *Matuda 3550*, the lectotype is chosen between the two duplicates deposited at MICH.

We have observed no specimens of this taxon from south of Guatemala and Belize in Central America.

Specimens labeled *M. usumacintensis* from Nicaragua are the result of confusing this taxon with various species of *Lysiloma*, particularly *L. acapulcensis* (Kunth) Benth. Thompson (1980), in his revision of *Lysiloma*, annotated the type of *M. usumacintensis* as *L. acapulcensis*. This specimen (*E. Matuda 3550*), however, is *M. usumacintensis*, having numerous separate filaments remaining at the base of the fruit stipes of some fruits.

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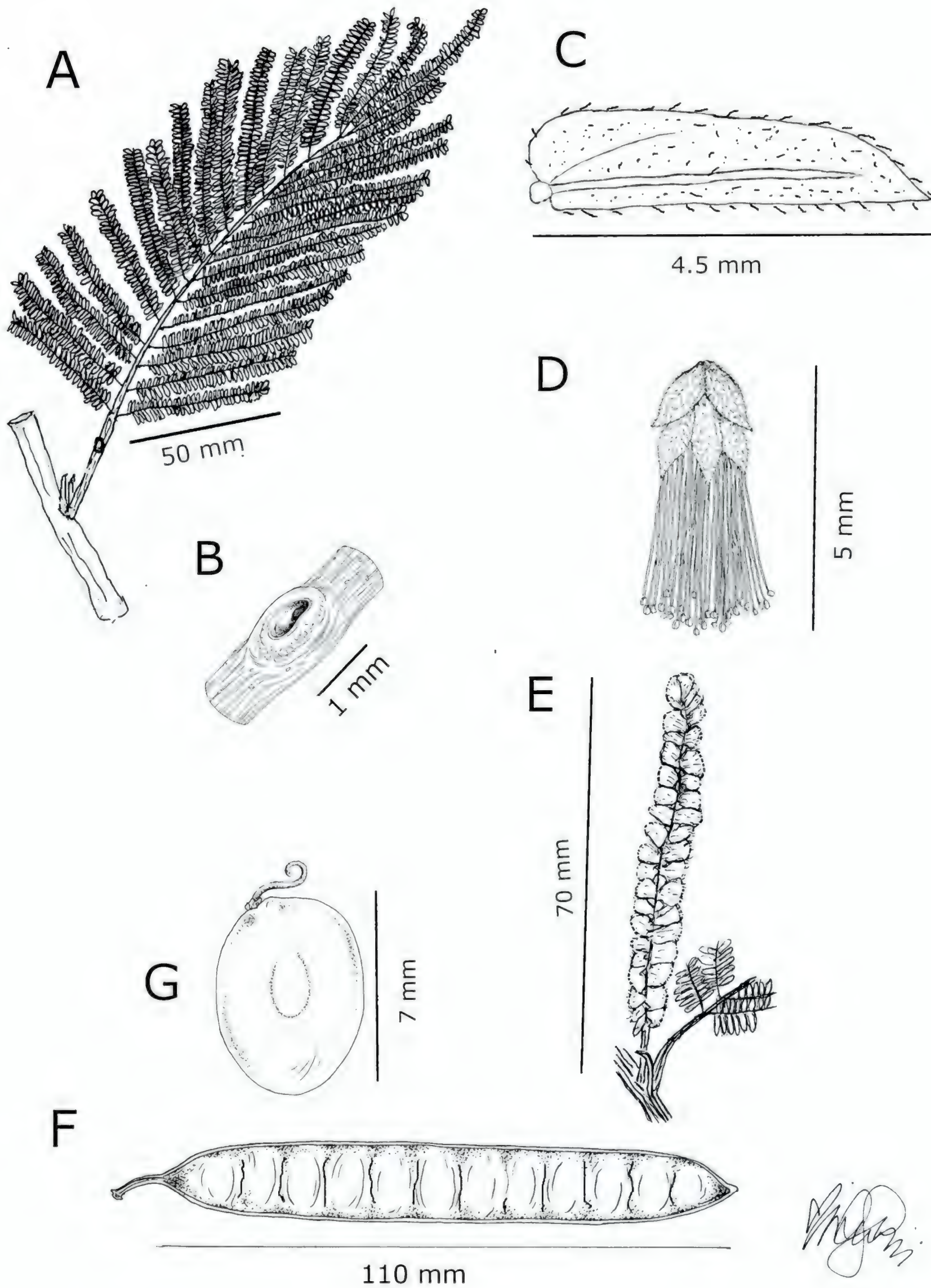


Figure 1. *Mariosousa acatlensis* (Benth.) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A, C, F, G from R. S. Felger 85-38 (MO); B from M. L. Torres C. et al. 400 (MO); D, E from R. McVaugh 23271 (MICH); A-G illustrated by V. Severini.

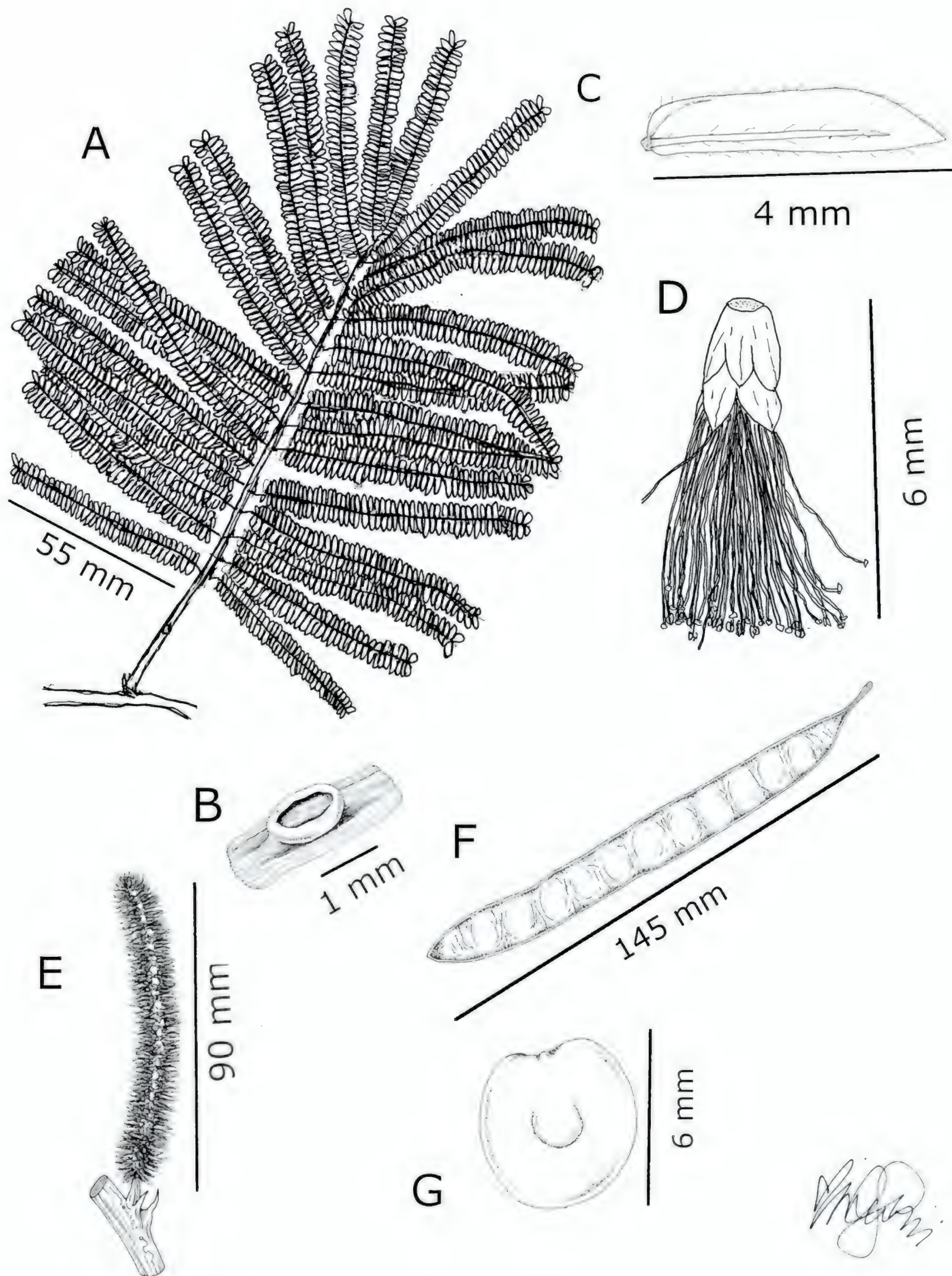


Figure 2. *Mariosousa centralis* (Britton & Rose) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A, C from the *A. S. Magallanes et al. 218* (MEXU); B, D, E from *P. C. Vincelli 779* (MO); F, G from *D. H. Janzen 10357* (MO); A-G illustrated by V. Severini.

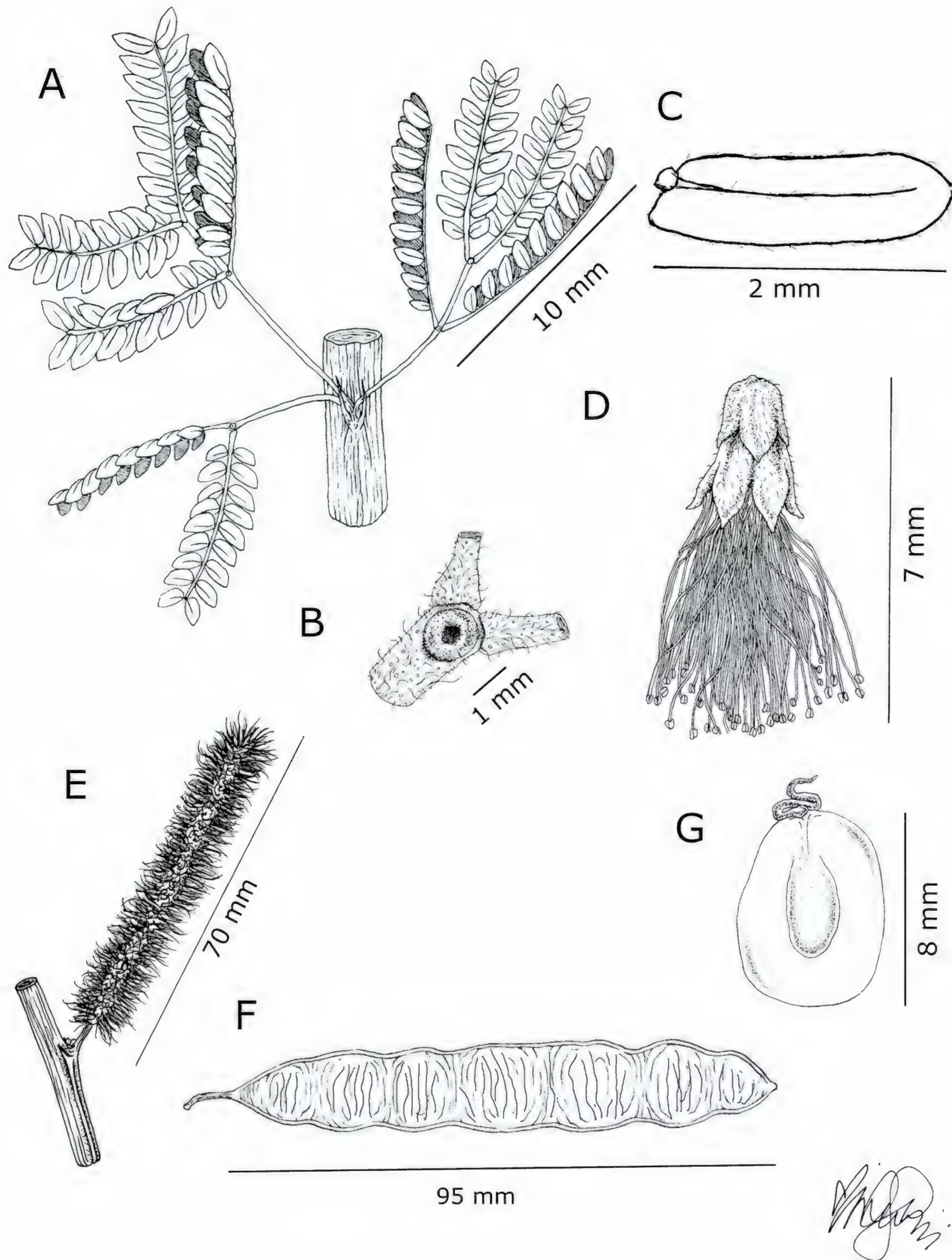


Figure 3. *Mariosousa compacta* (Rose) Seigler & Ebinger in Seigler et al.; A. Leaves; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A, B, D, E from F. Chiang C. et al. F-2466 (RSA); C from M. Sousa & M. Sousa P. 10405 (ARIZ); F, G from M. Sousa et al. 5394 (WIS); A-G illustrated by V. Severini.

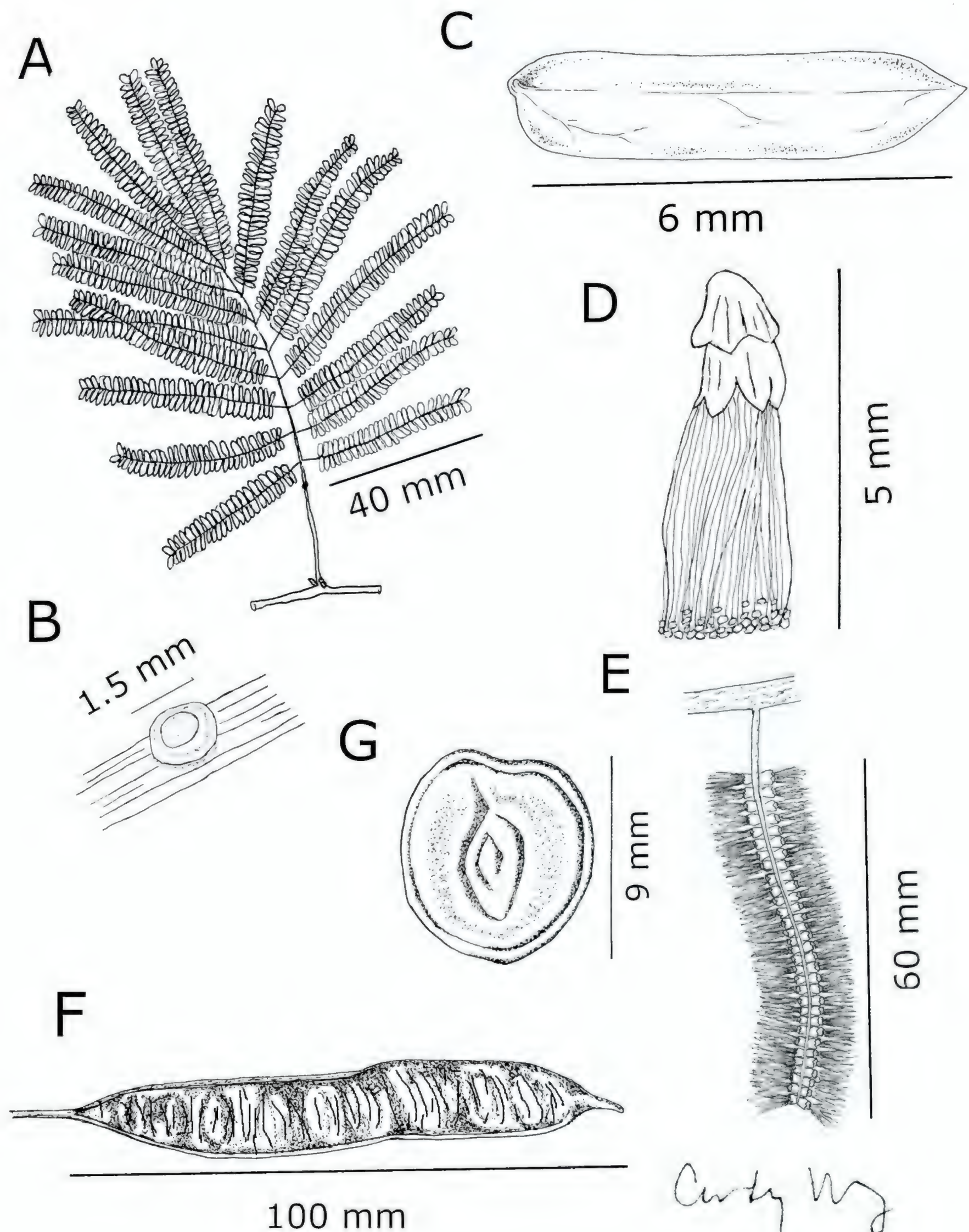


Figure 4. *Mariosousa coulteri* (Bentham) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A from C. Glass & G. Glass 370 (ILL), B, F from J. Graham & M. C. Johnston 4096 (TEX); C, G from G. B. Hinton 24102 (NY); D, E from L. González Q. 2358 (MICH); A-G illustrated by C. Wang.

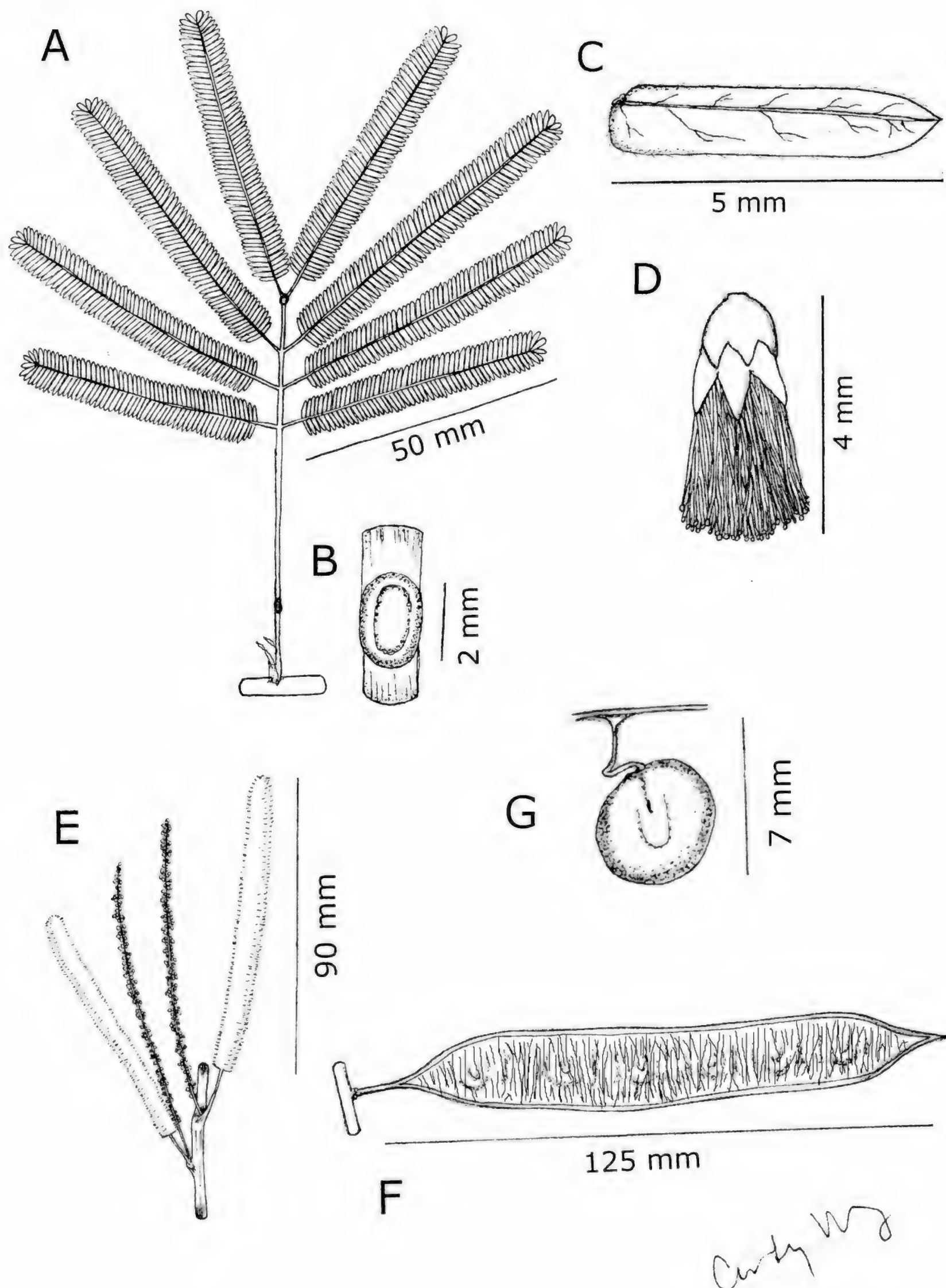


Figure 5. *Mariosousa dolichostachya* (S. F. Blake) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit; G. Seed. A-C from O. Téllez & E. Cabrera 2366 (NY); D, E from R. Durán et al. 85 (MO); F from P. Sima & L. Castillo 1846 (F); G from E. Martínez S. et al. 30879 (MEXU); A-G illustrated by C. Wang.

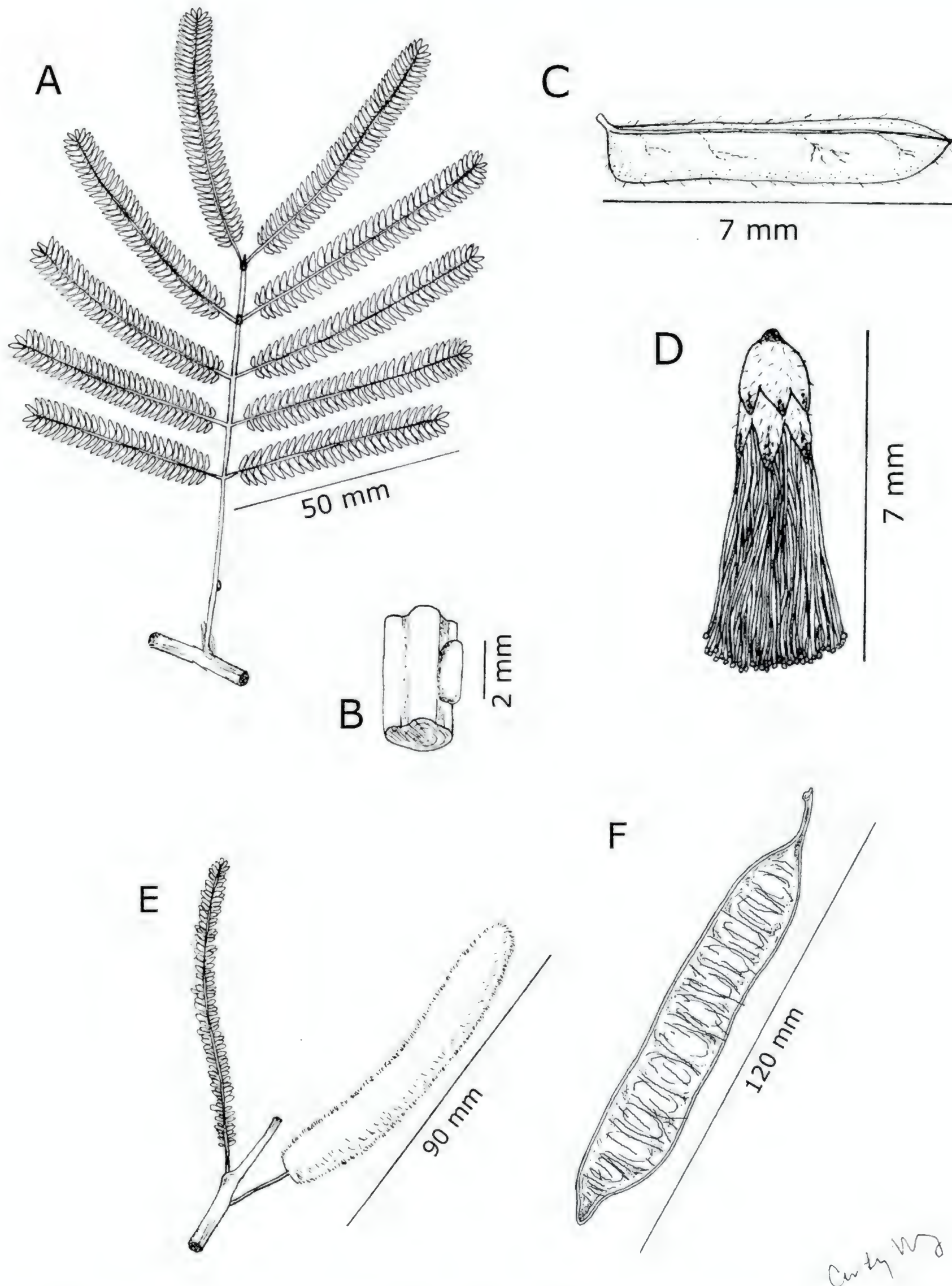


Figure 6. *Mariosousa durangensis* (Britton & Rose) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit. A-C from *J. A. S. Magallanes & E. J. Lott. 2903* (MO); D, E from *R. Bye et al. 12774* (MEXU); F from *P. Tenorio L. et al. 6323* (TEX); A-F illustrated by C. Wang.

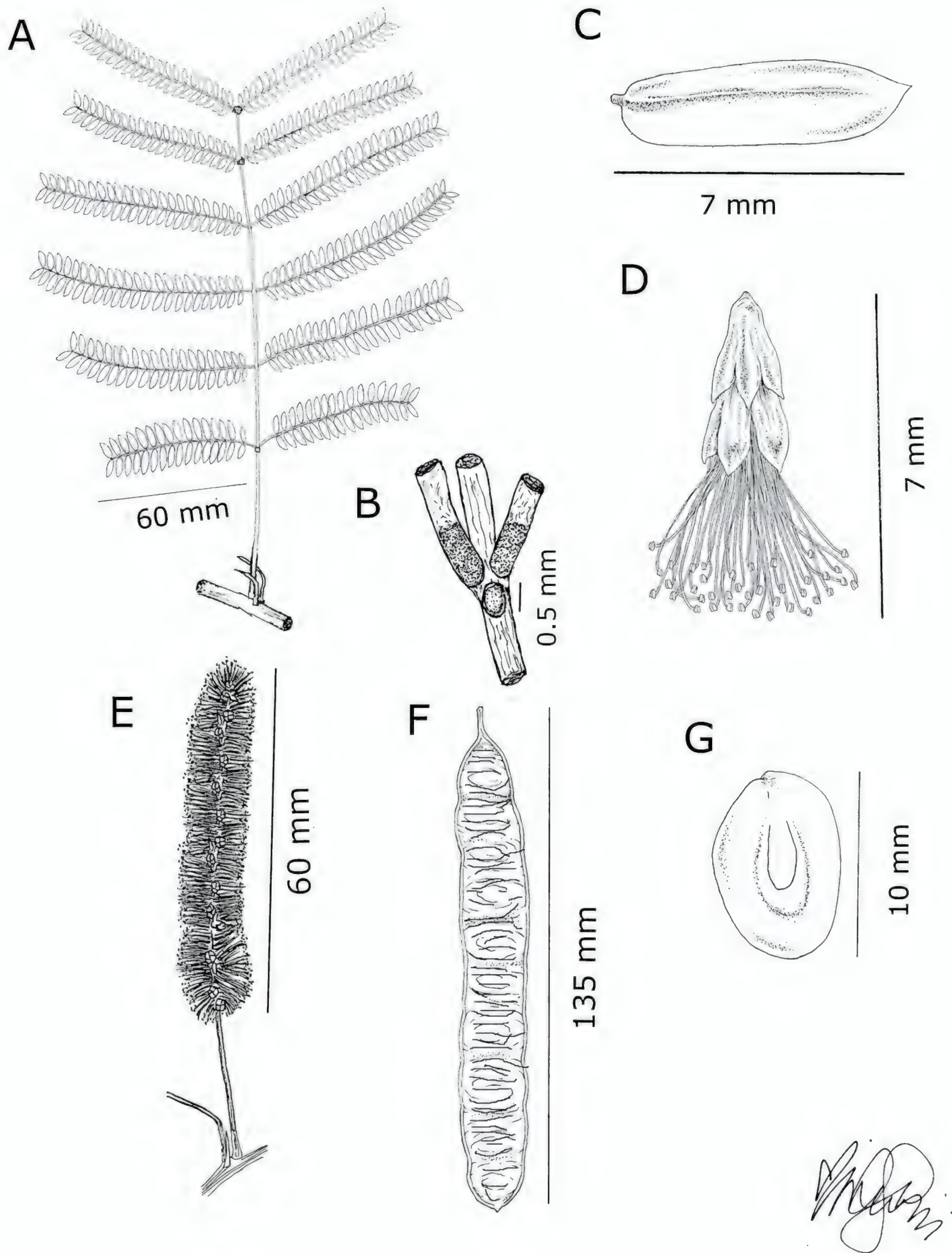


Figure 7. *Mariosousa gentryi* Seigler & Ebinger; A. Leaves; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit; G. Seed. A-C, F, G from the holotype *H. S. Gentry 14337* (MICH); D, E from *A. C. Gibson & L. C. Gibson 2101* (ASU); A-G illustrated by V. Severini.

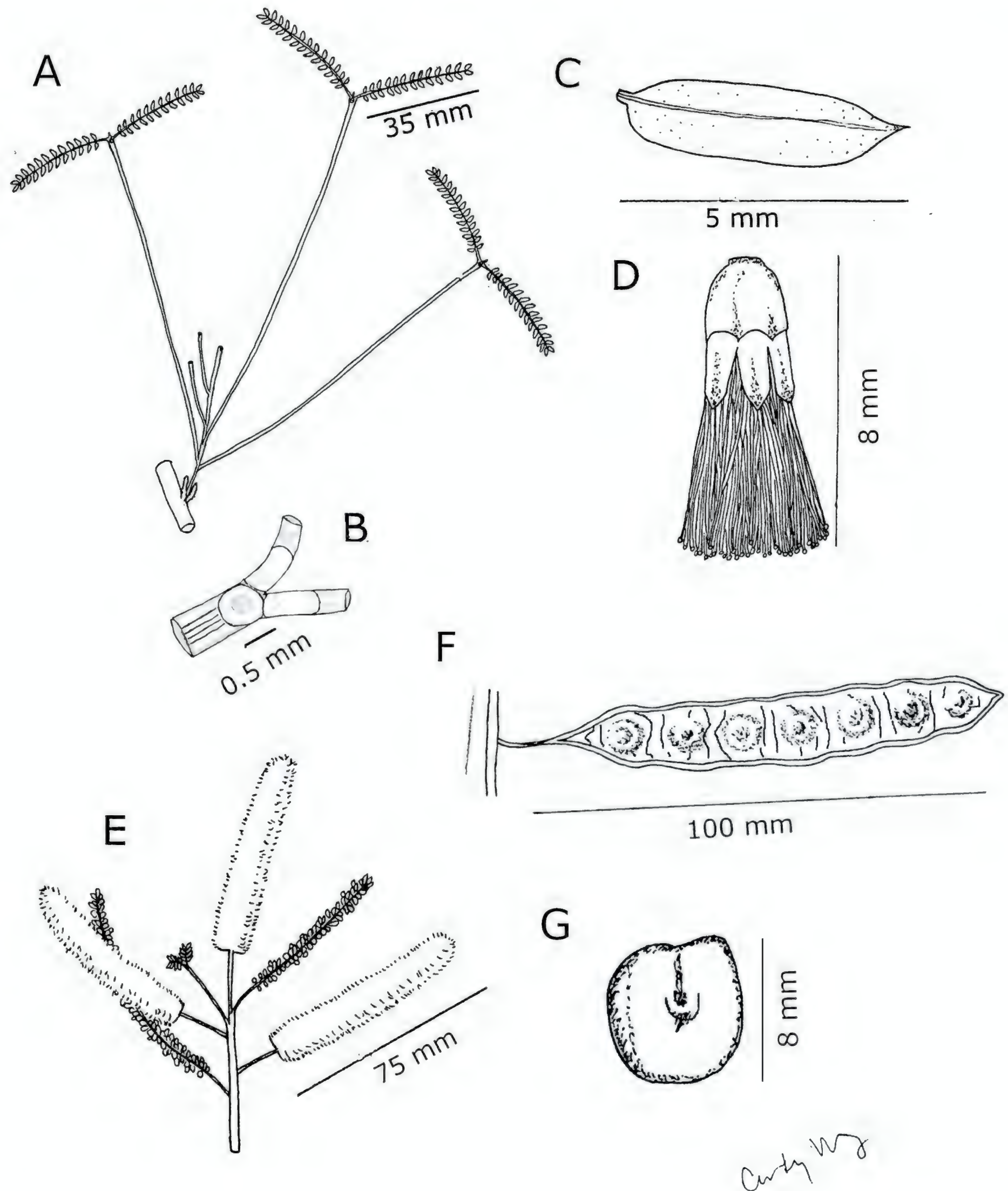


Figure 8. *Mariosousa heterophylla* (Bentham) Seigler & Ebinger in Seigler et al.; A. Leaves; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit; G. Seed. A, B from *H. S. Gentry & R. G. Englund 551A* (ASU); C from *D. J. Pinkava P12788* (ARIZ); D from *R. Moran et al. 21940* (ASU); E from *G. B. Cummins s. n.* (28 Apr 1975) (ARIZ); F from *R. Moran 4017* (WIS); G from *P. Tenorio L. 9521* (RSA); A-G illustrated by C. Wang.

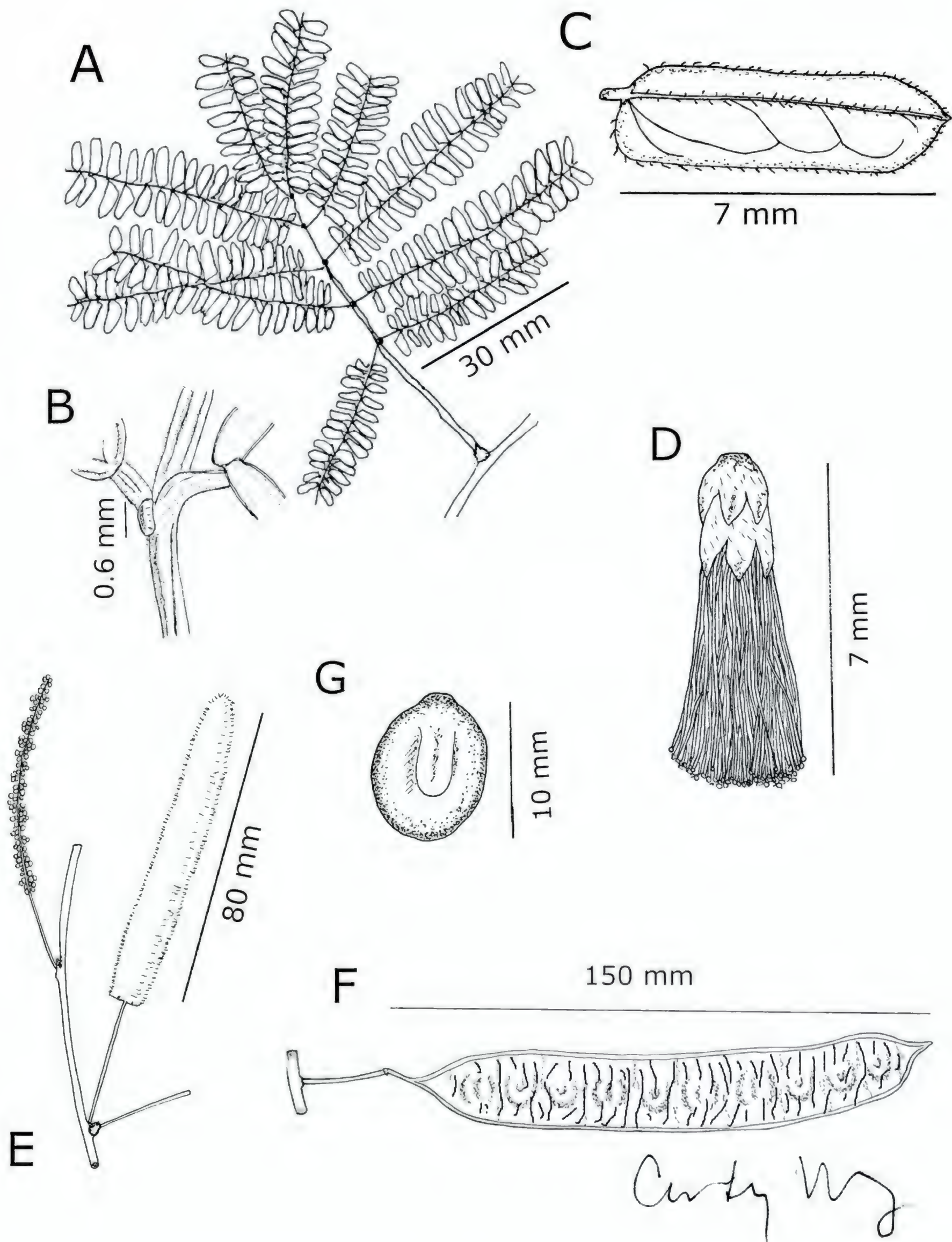


Figure 9. *Mariosousa mammifera* (Schlechtendal) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit; G. Seed. A, C, F, G from *K. Roe & E. Roe 2220* (WIS); B from *P. Tenorio L. & C. Romero de T. 5777* (WIS); D, E from *J. A. Villarreal et al. 2736* (TEX); A-G illustrated by C. Wang.

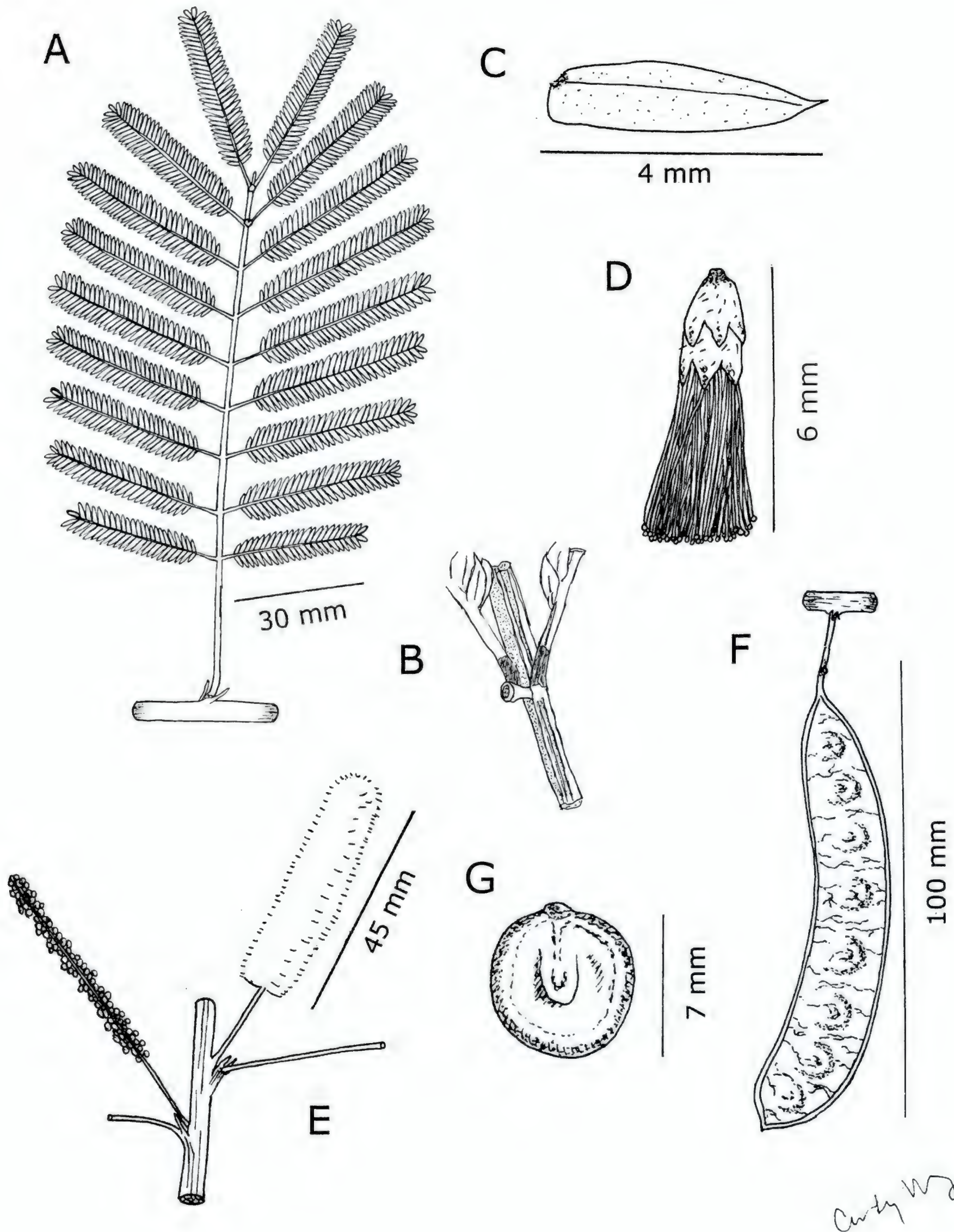


Figure 10. *Mariosousa millefolia* (S. Watson) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Rachis gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A, B from R. M. Turner & C. H. Lowe Jr. 2062 (ARIZ); C, D from M. Young s. n. (23 Jul 1971) (ASU); E, F from E. Lehto 17858 (ASU); A-F illustrated by C. Wang.

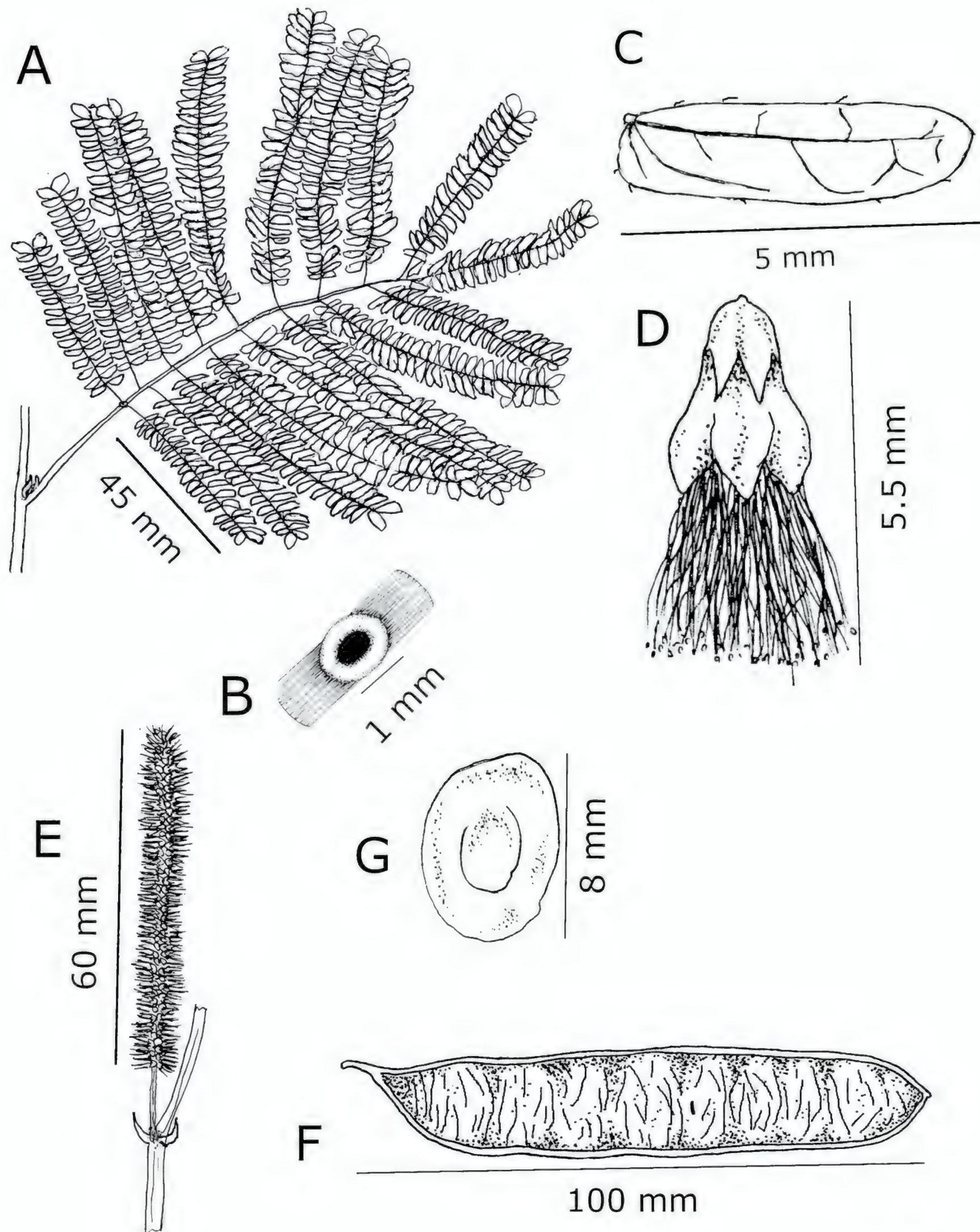


Figure 11. *Mariosousa russelliana* (Britton & Rose) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A, C from T. R. Van Devender & C. Lindquist 94-828 (NY); B from I. L. Wiggins & R. C. Rollins 228 (DS), D, E from E. Joyal 2018 (ASU); F, G from P. Tenorio L. et al. 10202 (NY); A-G illustrated by V. Severini.

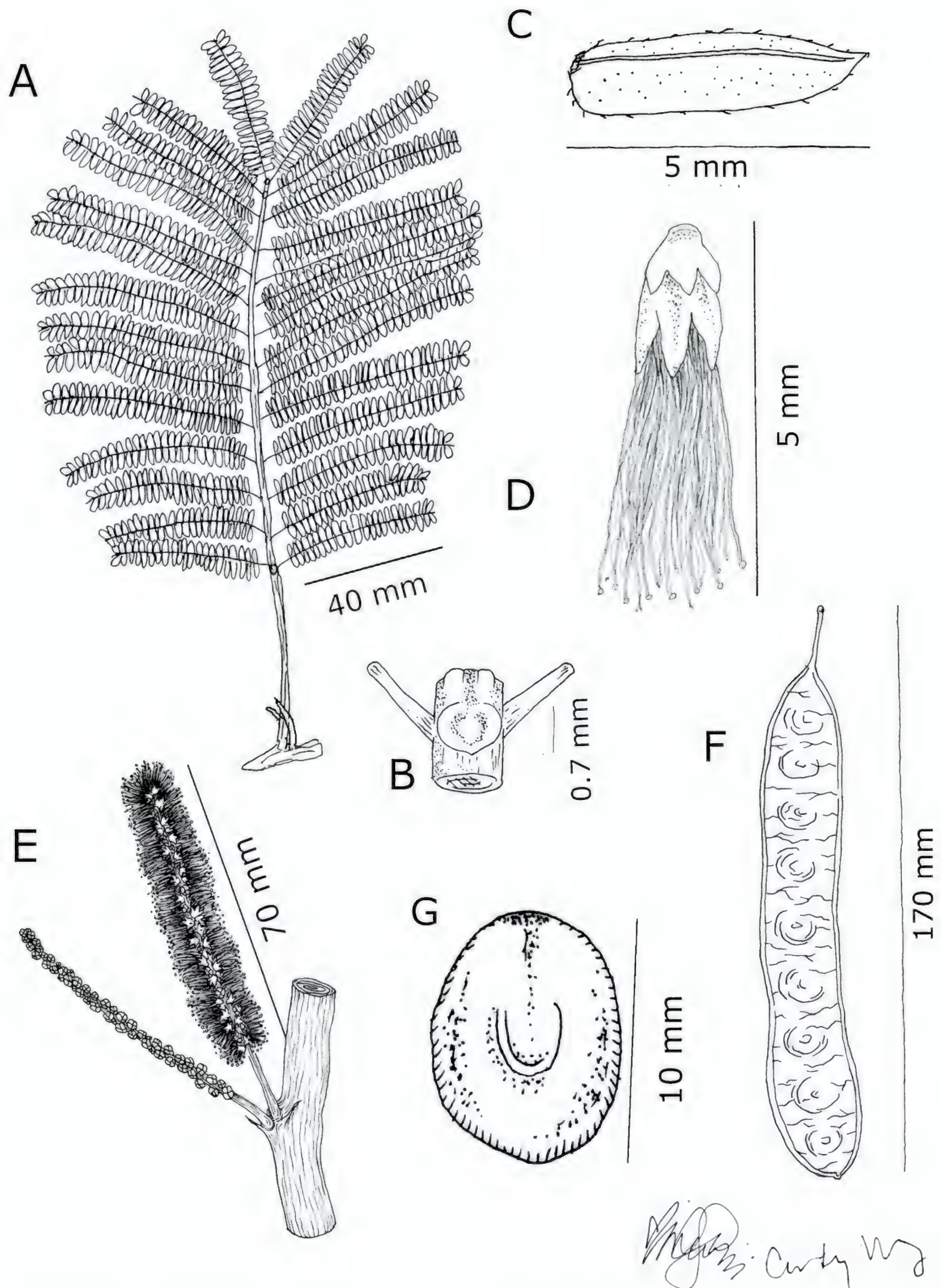


Figure 12. *Mariosousa salazarii* (Britton & Rose) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit; G. Seed. A, F, G from *M. Sousa* 6934 (UC); B, C from *A. Delgado S. & J. García P.* 1085 (WIS); D, E from *V. Jaramillo et al.* F-1175 (MO); A-G illustrated by V. Severini & C. Wang.

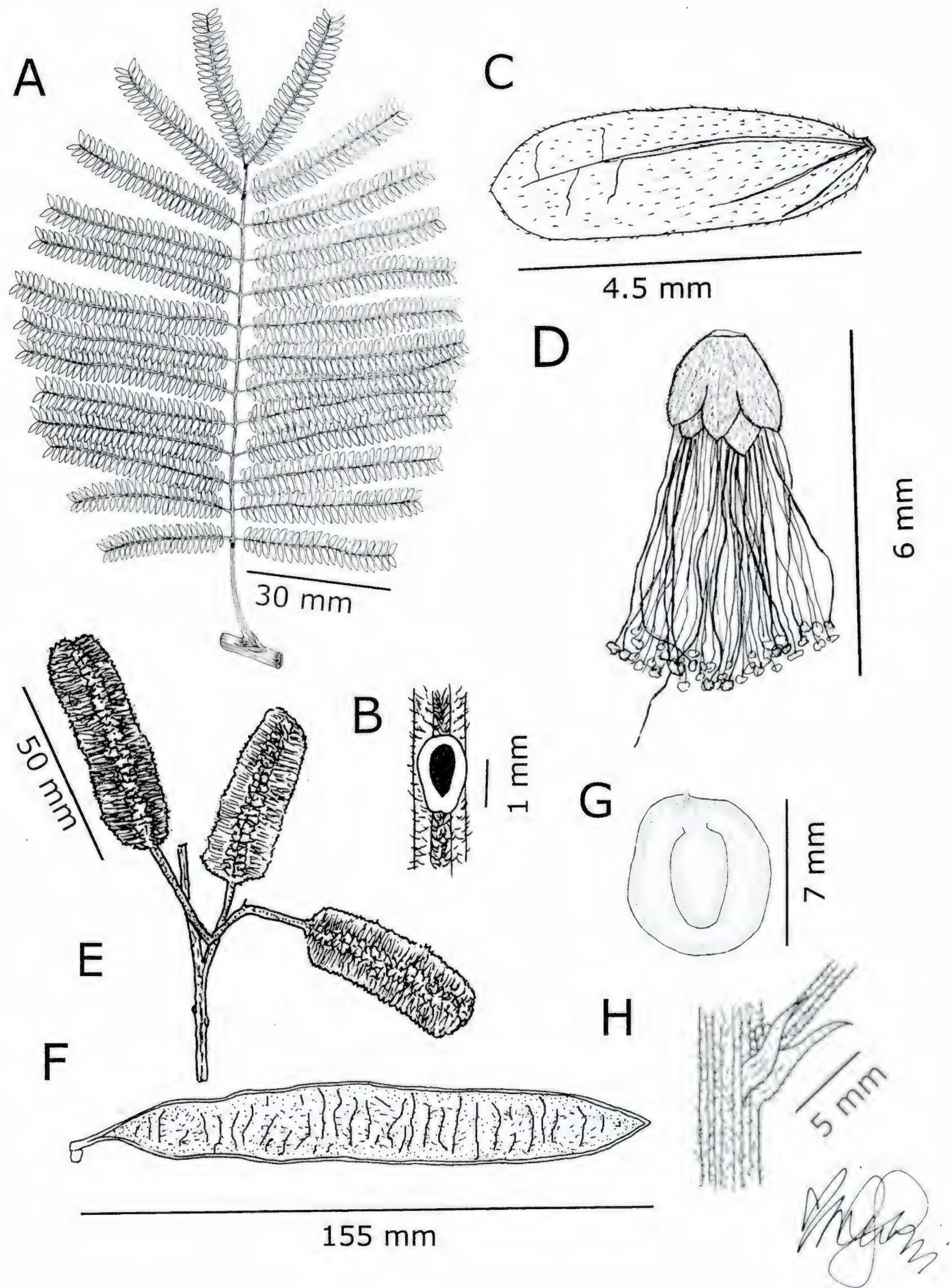


Figure 13. *Mariosousa sericea* (M. Martens & Galeotti) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescences; F. Fruit; G. Seed; H. Stem with stipules. A, C, D, F, G from *M. Sousa* 6923 (UC); B, E, H from *M. Sousa et al.* 5396 (WIS); A-H illustrated by V. Severini.

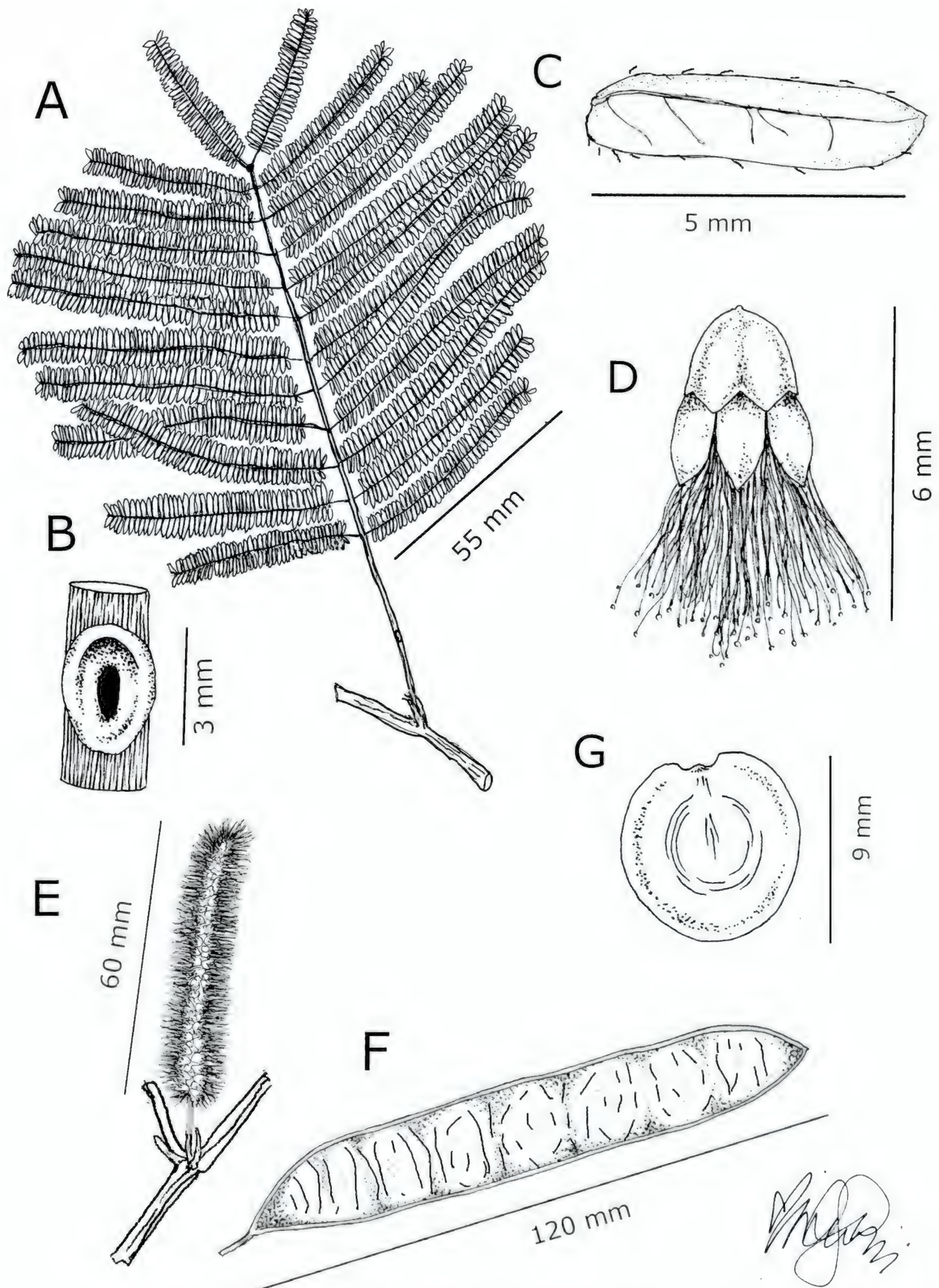


Figure 14. *Mariosousa usumacintensis* (Lundell) Seigler & Ebinger in Seigler et al.; A. Leaf; B. Petiolar gland; C. Leaflet; D. Flower; E. Inflorescence; F. Fruit; G. Seed. A from *E. Contreras* 844 (LL); B from *E. Martínez S. et al.* 30728 (MEXU); C from *E. Contreras* 5869 (LL); D, E from *E. Martínez S. et al.* 30698 (MEXU); F, G from *N. T. Marshall et al.* 423 (NY); A-G illustrated by V. Severini.

Appendix. List of exsiccatae for the *Mariosousa* species examined by the authors during this study. The numbers in parentheses refer to those in the alphabetical and numerical listing of species in the text.

Abrams, L.R. 13340(8).
Aguilar M., G. 982(14), 7283(14).
Aguilar M., G. et al. 1907(14).
Aguilar S., R. 220(1).
Allen, P.H. & R. Armour, 7257(2).
Álvarez, A. 5181(5).
Álvarez, A. & C. Jiménez J. 3289(5), 7384(5).
Álvarez, D. 5050(14), 5134(14).
Álvarez, D. & A. Ramírez, 8272(5).
Anderson, W.R. & C. Anderson, 5332(12).
Andrieux, G. 396(1).
Araquistain, M. 3484(2), 3526(2), 3532(2).
Araquistain, M. & P. Moreno, 1333(2).
Arvigo, R. et al. 492(14), 828(14), 840(14), 940(14).
Atchison, E. 427(4).
Balick, M.J. et al. 1818(14).
Barr, R.J. 66-199(10), 67-374(10).
Barrell, J. & S. Spongberg, 66-208(10).
Bartlett, H.H. 10818(4).
Benson, L. 8802(10), 9271(10), 11346(10).
Bermudez, B. 11(2).
Bezy, R.L. 512(10).
Blakley, E.R. B-820(8), 1638(8).
Boege, W. 94(1).
Boucher, 703(2).
Bowers, J.E. & S.P. McLaughlin, 1870(10).
Boyd, S. et al. 6604(12).
Bradburn, A. & S. Darwin, 1294(5).
Breckon, G.J. et al. 2278(4).
Breedlove, D.E. 33387(14).
Brokaw, N.V.L. 280(14).
Brown, C.S. IV(14).
Brown, J.L. & P. Cocon, 56 (14).
Brunner, D.R. 57(8).
Bye, R. et al. 12774(6).
Cabrera, E. 11456(5).
Cabrera, E. & L. Cortez, 378(5).
Cabrera, E. et al. 2997(2).
Cabrera C., E. & H. de Cabrera, 3158(5), 3561(5), 4080(5), 4903(5), 10555(5), 13203(5).
Calderón, M. et al. 76(2).
Calderón, S. 1774(2).
Calzada, J.I. 2385(14).
Calzada, J.I. & A. Campos, 18320(1).
Carlson, M.C. 1485(2).
Carranza, E. 1696(4).
Carter, A.M. & L. Kellogg, 3246(8).
Carter, A.M. et al. 71-69(11).
Castillo, J.J. et al. 2355(14).
Castillon, A.E.E. 687(9).
Chan, C. & M. Burgos, 1364(5).
Chan, C. & E. Ucan, 1023(5).
Chavarria, U. 461(2).

- Chavelas, J. ES-5504(14).
Chiang C., F. et al. F-1896(1), F-2024(13), F-2466(3), F-2591a(13)
Chimal, A. et al. 755(14), 756(14).
Clark, O.M. 6819(4), 7235(12).
Clausen, R.T. 6036(12).
Clausen, R.T. & J.L. Edwards, 7366(4), 7367(4).
Cochrana, T.S. & F.J. Santana M. 13038(1).
Contreras, E. 844(14), 3467(14), 3599(14), 5479(14), 5869(14), 6987(14), 7089(14), 7349(14), 8356(14), 9198(14).
Contreras, J.L. et al. 6(12).
Conzatti, C. 2046(1), 2176(13), 5321(13).
Cornejo, D.O. 25(12).
Coville, R.V. 1648(8).
Croat, T.B. 23705(14).
Crutchfield, J. & M.C. Johnston, 5390(4), 5401(4), 5425(4), 5514(4).
Daniel, T.F. 2351(8), 3980(8).
Daubenmire, R. 104(2), 775(2).
Davis, L.I. & E. Kincaid, 55-66(12).
Dayton, W.A. & W.R. Barbour, 3099(2).
Deam, C.C. 6281(2).
Delgado S., A. & J. García P. 1085(12).
Delgado S., A et al. 181(1).
Díaz, R. 388(4).
Díaz, R. et al. 484(4).
Dillon, M.O. & E. Rodríguez, 1032(8).
Dorado R., O.R. & A. Salinas, T. F-2776(13).
Durán, R. et al. 85(5), 2197(5), 3038(5), 3351(5).
Dwyer, J.D. 12662(14), 14858(14).
Dwyer, J.D. & R. Coomes, 12930(14).
Dwyer, J. D. et al. 258(5).
Elorsa C., M. 1170(14), 2088(14), 2113(2), 2757(14), 3056(14), 6996(1).
Enríquez E., E.D. 294(1).
Estyrada C., A.E. & S. Favela, 1459(4).
Felger, R.S. 85-38(1), 353(8), 2416(8), 2787(8), 3000(11), 3596(10), 3619(10), 3628(11), 5513(8), 6553(8), 7930(8), 9151B(8), 10047(8).
Felger, R.S. & R.L. Bezy, 14036(8).
Felger, R.S. & E. Hamilton, 15638(8).
Felger, R.S. & C.H. Love, Jr. 2576(8), 2600(8).
Felger, R.S. & F.W. Reichenbacher, 85-1084(11).
Felger, R.S. et al. 02-255(11), 06-86(8), 08-143(8), 74-8(8), 84-204(11), 84-382(10), 85-561(8), 90-694(11), 9989(8), 10023(8), 11588(8), 17725(8).
Ferris, R.S. 10054(10).
Fishbein, M. et al. 926(8).
Flórez-Castorena, F. & R. Ramírez R. 797(5).
Flyr, D. 101D(8).
Friedman, S.L. 029-96(11), 184-93(11).
Friedman, S.L. & G. Hall, 361-93(11).
Friedman, S.L. & K.J. Johnson, 514-49(11).
Friedman, S.L. & J.R. Zittere, 156-95(11).
Friedman, S.L. et al. 256-95(11).
Galeotti, H. 3345(13).
García, M.E. 96(2).
Garnier, A. 957(2).
Gaumer, G.F. 679(5), 1353(5), 1358(5).
Gaumer, G.F. & Sons, 23329(5).
Gentry, H.S. 1473(11), 2190(8), 3012(8), 3784(10), 11432(7), 14309(11), 14337(7), 14420(7), 14483(8), 16560(11), 17635(11).

- Gentry, H.S. & R.G. Englard, 551A(8).
Gibson, A.C. & L.C. Gibson, 2101(7).
Glass, C. & G. Glass, 370(4), 379(4), 442(10).
González, Q., L. 824(9), 2358(4).
González, L. & A. Garita, 2995(2), 3021(2).
Goodding, L.N. A-9814(10), 19-42(10), 89-53(10), 491-58(10), 251-60(10), 2319(10).
Goodding, L.N. & L.E. Goodding, A-9100(10).
Goodman, E.A. 389(8).
Graham, J. & M.C. Johnston, 4096(4).
Grether, R. & H. Quero, 1239(13).
Grether, R. et al. 1331(5).
Grijalva, A. 3960(2).
Grijalva, A. & M.V. de Grijalva, 1406(2).
Grijalva, A. et al. 3105(2).
Guizar, E. 932(1).
Haber, W.A. & E. Bello C. 1628(2).
Hall, J.S. & S.M. Bockus, 7981(2).
Hansen, B. et al. 1728(13).
Harrison, G.J. & T.H. Kearney, 7978(10).
Hastings, J.R. 71-195(10), 71-214(11), 71-215(8).
Hastings, J.R. & R.M. Turner, 64-9(8), 64-103(11), 65-25(10), 69-145(11), 69-169(11).
Henrickson, J. 1565(8).
Hernández M., R. 3775(9), 3850(9).
Hernández M., R. & P. Tenorio L. 6939(9), 7162(4).
Hernández M., R. et al. 6036(9).
Hinckley, L.C. 4550(10).
Hinton, G.B. 3747(1), 4142(12), 5417(1), 5874(1), 5955(1), 6286(1), 7749(1), 7755(1), 17938(4), 24102(4), 24158(4), 24235(4), 24517(4).
Hiriart, P. et al. 579(4).
Hitchcock, C.L. & L.R. Stanford, 6867(4).
Hughes, C.E. 953(14).
Hughes, C.E. & P.E. Wood, 1478(2).
Hughes, C.E. et al. 1320(13), 1584(9).
Hutchins, B. 12800(8).
Janzen, D.H. 10195(2), 10196(2), 10355(2), 10356(2), 10357(2), 11922(2), 11923(2), 12221(2).
Jaramillo, V. et al. F-1175(12).
Jiménez, J. 67(4).
Johnson, C.D. 67-70(8), 191-77(11).
Johnson, M.B. et al. 89-153(10).
Johnston, I.M. 3081(8), 3125(8), 4252(8), 4271(8), 4334(8).
Jones, M.E. 22495(8), 23003(11).
Joyal, E. 1675(11), 2018(11).
Kaiser, J. 1394(10).
Kearney, T.H. & P.H. Peebles, 10461(10).
King, R.M. 4498(4).
Kirkby, A.V.T. 10(1).
Knobloch, I.W. 2325(8).
Laguna, A. 242(2).
Langlasse, E. 112(1).
Lancaster, D.A. 18(14).
Landrum, L.R. & S.S. Landrum, 6315(8).
Lehto, E. 17858(10), 24400(8).
Leino, P.W. 360(14).
Lentz, D. & J. Giametta, 2818(14).
Lentz, D. et al. 2745(14).
Levy T., S. & A. Durán F. 77(5).

- Lewis, G.P. et al. 2060(8).
Lott, E.J. & T.H. Atkinson, 2517(8).
Lott, E.J. et al. 3502(1).
Lundell, C.L. 6356(14), 15348(14), 15973(14), 16092(14), 18071(14).
Lundell, C.L. & E. Contreras, 19033(14), 19276(2).
Lundell, C.L. & A.A. Lundell, 7344(5).
MacDougall, T. 230(2), 363(2).
Magallanes, A.S. 906(2), 2420(1), 2666(2).
Magallanes, A.S. et al. 11(1), 218(2).
Magallanes, J.A.S. 2113(2), 2169(1).
Magallanes, J.A.S. & P. Basurto, 1807(2).
Magallanes, J.A.S. & E.J. Lott, 2903(6).
Malthy, T.S. 183(8).
Manning, W.E. & M.S. Manning, 53183(4), 53403(4).
Marshall, N.T. et al. 423(14).
Martin, P.S. 71C(4), 96(4), 129(9).
Martínez R., C. 629(14), 903(2).
Martínez S., E. 557(12), 1070(1), 7291(14), 13682(14), 17746(14), 33366(1).
Martínez S., E. & A.M. Girón, 6288(14).
Martínez S., E. et al. 2318(12), 13682(14), 30537(5), 30698 (14), 30728(14), 30879(5), 30881(5).
Maslin, B.R. 6066(4).
Mason, Jr., C.T. et al. 1686(8).
Matuda, E. 1584(2), 3323(14), 3324(14), 3550(14), 28501(12).
McGill, L. & E. Lehto L. 20422(10).
McLaughlin, S.P. 64(10).
McLaughlin, S.P. & J.E. Bowers, 3708(10).
McVaugh, R. 10364(9), 14866(4), 22520(12), 23271(1).
Meave, J. et al. B-515(14).
Medrano, F.G. 7957(9).
Medrano, F.G. et al. F-1091(13), F-1172(3), F-1204(12), 1905(3), 4825(4), 8864(9), 10083(9), 12733(1), 12736(1).
Méndez, F. 378(14).
Mendoza, A.G. 691(9), 930(9), 2225(9).
Meyer, F.G. & D.J. Rogers, 2640(9).
Miranda, F. 7185(14).
Mittleman, M. 373(10).
Molina R., A. 18420(2), 20317(2).
Moore, Jr., H.E. & C.E. Wood, Jr. 3629(4), 3839(4).
Moran, R. 4017(8), 4052(8), 4070(8), 8766(8), 13006(8).
Moran, R. et al. 21940(8).
Moreno, P.P. 645(5), 4269(2), 4295(2), 4395(2), 13555(2), 16235(2), 16917(2), 21308(2), 25282(2).
Moreno, P.P. & J. Henrich, 8947(2).
Moser, E. et al. 18132(8).
Mueller, C.H. 2091(4).
Mueller, C.H. & M.T. Mueller, 532(9).
Nava, D. et al. 28(1), 97(1).
Nee, M. 22283(4).
Neill, D. 480(2).
Nilson, E.W. 4421(4).
Ornelas U., R. et al. 1112(1).
Ortega, J.G. 1207(11), 4844(11), 5216(2), 5420(11), 5717(2).
Ortiz, R.T. 239(2), 1039(14), 1528(14), 1734(2), 1762(14), 2646(14).
Ortiz- Bermúdez, E. 291(1).
Palmer, E.J. 45(10), 107(6), 216(4), 459(4), 628(8), 1215(8).
Parfitt, B. 3040B(8).
Patterson, T.F. 6473(4).
Peebles, R.H. & T.H. Kearney, 8745(10).

- Pennell, F.W. 19469(11).
Pennington, C.W. 24(11).
Pennington, T.D. & J. Sarukhán K. 9199(14), 9635(14).
Philips, A. et al. 75-56(10).
Phillips, W.S. 3488(8).
Pinkava, D.J. P12788(8).
Pinkava, D.J. et al. 14487(10), 14492(10).
Prigge, B.A. & D. Verity, 7378(8).
Pringle, C.G. 2549(4), 5885(1), 7852(4), 15619(4).
Puig, H. 4741(9).
Purpus, C.A. 418(8), 3193(3), 3863(13), 3871(13), 5181(4), 5845(13), 10682(13).
Ratter, T.A. R4607(14).
Rea, A. 74a(11), 226(11), 1106(11).
Reichenbacher, F.W. 250(8).
Reina G, A.L. 2004-1467(1).
Reina G., A.L. et al. 96-284(11).
Reyes, I.V. & G.A. Elizabeth, 462(9).
Reyna, J. & L. Téllez, 701(12).
Rico L. 249(13).
Rico, L. & V.A. Funk, 204(12).
Rico L. & E. Martínez S. 736(14), 848(12).
Rico, L. et al. 246(3), 248(3), 253(13), 333(9).
Roberts, F.M. & W.R. Ferren, 2405(8).
Roe, K. & E. Roe, 2220(9).
Rose, J.N. 1226(8), 16776(8).
Rose, J.N. & R. Hay, 5897(13).
Rose, J.N. & W. Hough, 4680(3).
Rose, J.N. & J.S. Rose, 11394(13).
Rose, J.N. et al. 9126(9), 10016(13), 10082(3), 12343(8), 12557(8), 12656(11), 13204(11), 13317(7), 14994(11).
Rubio, H. 1675(4), 2405(4).
Runyon, R. 728(4).
Rzedowski, J. 7709(4), 7745(4), 8062(9), 10346(4), 16628(12), 19296(12), 34920(1), 35665(12), 43093(9).
Salinas T., A. & O.R. Dorado R. F-2670(3), F-3199(3).
Salinas T., A. & C.H. Ramos, F-3857(3).
Salinas T., A. & P. Solis S. F-3596(13).
Salinas T., A. et al. F-3142(13).
Sanders, A.C. & J. West, 3956(10).
Sanders, A.C. et al. 2506(8), 4618(11), 9286(11), 9440(11), 12767(11), 13260(11).
Sandino, J.C. 907(2), 4448(2).
Saucedo, C.A. 965(1).
Seigler, D.S. & B.R. Maslin, 12676(4), 12686(1), 12690(1), 12691(1), 12692(1), 12693(12), 12694(12), 15984(12), 16035(5), 16036(5), 16040(5), 16044(5), 16057(12).
Seigler, D.S. & J.T. Miller, 16117(1), 16161(11), 16165(8), 16166(8), 16167(8), 16192(1), 16195(1).
Seigler, D.S. & P.M. Richardson, 11702(8), 11720(8).
Seigler, D.S. & A. Salywon, 14857(10), 14858(10), 14859(10), 14861(8), 14862(10).
Seigler, D.S. et al. 11627(4), 13010(4), 13064(12), 13146(4), 13203(4), 13225(4), 13293(4), 13449(4), 13473(4), 13571(12), 13597(12), 13690(4), 13707(4), 13829(4), 13916(12), 13938(2), 3987(12), 15948(4), 15953(4), 15978(12), 15984(12), 15996(13), 16002(1), 16025(14), 16027(14), 16226(1).
Servin, B. 117(9).
Shepard, J.D. 29(5), 38(5).
Shreve, F. 6703(11), 6753(10), 9588(8), 10059(8).
Sima, P. & L. Castillo, 1846(5).
Smith, Jr., C.E. & N. Tejeda 4511(12).
Smith, Jr., C.E. et al. 3584(12).
Smith, L.C. 430(13).
Soto N., J.C. 139(12), 1081(12), 1326(12), 2235(12), 3693(12).

- Soto N. J.C. & S. Aureoles C. 7745(12).
Soto N., J.C. & G. Ramírez S. 1691(12).
Soto N., J.C. & O. Rosas G. 8678(12).
Soto N., J.C. et al. 8573(1).
Sousa, M. 2668(13), 3123(12), 4651(12), 4657(13), 6923(13), 6934(12).
Sousa, M. & C. Ramos, 7233(12).
Sousa, M. & J.C. Soto N. 8047(12).
Sousa, M. & M. Sousa P. 10405(3).
Sousa, M. et al. 4096(14), 4339(12), 5394(3), 5396(13), 5402(13), 5418(12), 5432(1), 5444(1), 5683(9), 5689(1), 5763(12), 6131(13), 6912(3), 8060(12), 8079(12), 8083(13), 8235(1), 9326(12), 9328(12), 10430(3), 10708(12), 10959(5), 11014(5), 11824(1), 11948(13), 12229(5), 12369(14), 12441(5), 12793(14).
Spaulding, W.G. 75-3-33(8).
Spellenberg, R. & R. Repass, 5371(10).
Stevens, G. 303(2).
Stevens, W.D. 3546(2), 3922(2), 4753(2), 5321(2), 6193(2), 9681(2), 21935(2).
Stone, D.E. 1085(4).
Studhalter, R.A. 1503(11).
Téllez, O. & E. Cabrera, 2012(5), 2032(5), 2170(5), 2366(5), 2453(5), 2466(5).
Téllez, O. & E. Martínez, 1084(12), 8542(2).
Téllez, O. et al. 5749(14).
Tenorio L., P. 3925(13), 9521(8), 11297(9).
Tenorio L., P. & R. Hernández M. 272(9).
Tenorio L., P. & C. Romero de T. 517(9), 5424(13), 5777(9), 8814(9), 9043(3), 10894(8), 13688(11).
Tenorio L., P. et al. 3784(13), 6323(6), 6983(13), 8863(12), 10202(11).
Thornber, J.J. 107(10).
Toolin, L.J. & K. Roever, 552(8).
Toolin, L.J. et al. 93(10).
Torres C., M.L. et al. 8(14), 42(14), 400(1), 568(14), 928(1).
Torres C., R. & M.A. Martínez, 6499(13).
Torres C., R. & P. Tenorio L. 172(1).
Torres C., R. et al. 1243(12), 9582(1).
Torres, G.A. 183(2).
Tramontano, J.P. T-25(10).
Trigos, R.C. & R. Torres C. 1419(1).
Trigos, R.C. et al. 793(1).
Trott, S. et al. 140(12).
Turner, R.M. & D.E. Goldberg, 77-18a(11).
Turner, R.M. & L. Gunzel, 78-111(10).
Turner, R.M. & C.H. Lowe, Jr. 2062(10).
Ucan, E. & J.S. Flores, 985(5).
Ucan, E. et al. 663(5).
Valencia D., S. 38(1).
Valiente B., A. & P.D. Maeda, 674(3), 706(3).
Valiente B., A. et al. 526(4).
Van Devender, T.R. & C. Lindquist, 94-828(11).
Van Devender, T.R. et al. 93-929(11), 95-1069(11).
Vara et al. 574(5).
Vargas-Pérez, A. 163(12).
Vaughn, J. 661(10).
Vega A., R. & A. Hernández V. 4220(7).
Ventura, E. & E. López, 6778(9), 8935(4).
Viereck, H.W. 261(4), 336(4).
Villarreal, J.A. et al. 2736(9), 5958(4), 8001(4).
Villarreal, L.M. 6121(1).
Vincelli, P.C. 779(2).

- von Rozynski, H.W. 490(4).
Wallnöfer, B. 9558(14).
Webster, G.L. et al. 20035(3), 20107(3).
Wendt, T. et al. 4127(14).
White, S.S. 339(10), 539(10), 679(10), 2860(10), 3002(10), 3019(10), 4034(10), 4511(10), 4609(10).
White, S.S. & R.M. Chatters, 8(4).
Whitehead, J. M250(8).
Wiens, D. 759(8).
Wiggins, I.L. 6279(8), 7320(11), 7457(10).
Wiggins, I.L. & R.C. Rollins, 228(11), 233(8).
Wilder, B.T. et al. 07-557(8).
Williams, L.O. & A. Molina R. 10509(2).
Wynd, F.L. 710(4).
Zamora C., P. & J.A. Hernández T. 4405(5).
Zamora V. N., et al. 1083(2).
Zarate P., S. & M. Saiz, 325(4).
Zeledón, M. 82(2).